A2525-9-0

JOINT ASSOCIATION SURVEY ON 1990 DRILLING COSTS

SPONSORED BY:

AMERICAN PETROLEUM INSTITUTE

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA

MID-CONTINENT OIL & GAS ASSOCIATION

American
Petroleum
Institute

1990 JOINT ASSOCIATION SURVEY ON DRILLING COSTS

Finance, Accounting
and Statistics Department

November 1991

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005

PREFACE

The 1990 Joint Association Survey on Drilling Costs (JAS), conducted by the American Petroleum Institute (API), contains the results of our 38th annual survey on U.S. drilling expenditures. Included in the report is information on the number of wells completed, footage drilled and related expenditures by state. Data for oil wells, gas wells and dry holes are reported separately, and the information is further disaggregated by depth interval. Additional tables summarize the offshore and onshore areas.

The JAS, which is sponsored by API, the Independent Petroleum Association of America (IPAA) and the Mid-Continent Oil and Gas Association (MOGA), was first conducted in 1954, and has been issued annually since 1959. It is the only long-term source of detailed information on U.S. drilling expenditures available.

This edition of the JAS is the first produced using the concept of total quality management (TQM), a systematic process for improving current products and services, or creating new products and services, to meet customer needs.

API is committed to continuously improving the accuracy, timeliness and usefulness of its data, analyses and reports. As part of that effort, the next page contains a brief questionnaire. Please take a few moments to fill it out and return it. Your input will help us ensure that the JAS continues to meet its users' needs.

The companion survey to the JAS -- the Survey on Oil and Gas Expenditures (SOGE) -- is also now available. That report, formally referred to as Section 2 of the JAS, has been published annually since 1959. The SOGE contains estimates of exploratory, development and production expenditures in over 40 categories, including Acquiring Undeveloped Acreage, Lease Equipment, and Direct and Indirect Operating Costs.

Both surveys can be ordered by calling API's Publications and Distribution Department at (202)682-8378. The JAS sample data can also be purchased and are available on magnetic tape. These data are summarized to the extent necessary to avoid disclosure of individual well costs.

Washington, D.C.
November 1991

1991 Subscriber Follow–Up Survey

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005

1. How do you use the Joint Association Survey on Drilling Costs (JAS)?

   ❑ Public relations/information ❑ Economic assessment ❑ Exploration
   ❑ Financial assessment/planning ❑ Taxation purposes ❑ Forecasting
   ❑ Other _____

2. How many times a year do you use the JAS?

   ❑ 1–2 ❑ 3–10 ❑ 10+

3. Which data do you find most useful?

   ❑ Well completions ❑ Well type ❑ Exploration
   ❑ Drilling costs ❑ Depth interval ❑ Development
   ❑ Geographic location ❑ Other _____

4. How can we make this publication more useful?

   ❑ Electronic format
   ❑ Publish earlier (specify) _____ ❑ More detail (specify) _____
   ❑ Other _____

5. What type of company do you work for?

   ❑ Government ❑ Trade association ❑ Consulting firm
   ❑ Publishing firm ❑ Petroleum company ❑ Drilling operator
   ❑ Other _____

6. Who else in your organization might have a need for this publication?

7. What is your title and company name?

reverse side of questionnaire

PLACE
STAMP
HERE

AMERICAN PETROLEUM INSTITUTE
STATISTICS DEPARTMENT—EUS
1220 L STREET, NW
WASHINGTON, DC 20005

Please fold on dotted lines and stapel before mailing.

TABLE OF CONTENTS

Page

Preface iii
Executive Summary 1
Isolating Drilling Cost Changes 2
Horizontal Drilling 4
Coal-Bed Methane Wells 5
Description of Survey 6
The 1990 Sample 6
Estimation of Total Costs 7

TABLES

Summary Tables:

1. Total Number of Wells, Footage Drilled and Estimated Drilling Costs for Oil and Gas Wells, and Dry Holes by State--1990 8
2. Estimated Cost of Drilling and Equipping Wells by Depth Range--1990 Total United States 10
3. Estimated Cost of Drilling and Equipping Wells by Depth Range--1990 Total Offshore Wells 11
4. Estimated Cost of Drilling and Equipping Wells by Depth Range--1990 Total Onshore Wells 12
5. Estimated Costs for Exploratory and Development Wells: Lower 48 Onshore, Lower 48 Offshore and Total Alaska -- 1981-1990 13

State Tables:

6. Alabama 23
7. Total Alaska 24
8. Onshore Alaska 25
9. Offshore Alaska 26
10. Arkansas 27
11. Total California 28
12. North California 29
13. Central Coastal California 30
14. East Central California 31
15. South California 32
16. Offshore California 33
17. Colorado 34
18. Florida 35
19. Illinois 36
20. Indiana 37
21. Kansas 38
22. Kentucky 39
23. Total Louisiana 40
24. North Louisiana 41

TABLE OF CONTENTS (Cont.)

Page

25. South Louisiana 42
26. Offshore Louisiana 43
27. Michigan 44
28. Mississippi 45
29. Montana 46
30. Nebraska 47
31. Total New Mexico 48
32. West New Mexico 49
33. East New Mexico 50
34. North Dakota 51
35. Oklahoma 52
36. Total Texas 53
37. Texas--District 1 54
38. Texas--District 2 55
39. Texas--District 3 56
40. Texas--District 4 57
41. Texas--District 5 58
42. Texas--District 6 59
43. Texas--District 7B 60
44. Texas--District 7C 61
45. Texas--District 8 62
46. Texas--District 8A 63
47. Texas--District 9 64
48. Texas--District 10 65
49. Offshore Texas 66
50. Utah 67
51. Wyoming 68
52. Appalachian 69
53. Offshore Federal Waters 70
54. Gulf of Mexico--Northern 71

APPENDIXES

A. Questionnaire, Definitions and Instructions 75

B. Summary of Sample Data for Exploratory and Development Wells (as reported) 81
Summary of Sample Data for Single and Multiple Completion Wells (as reported) 83
JAS Sample Distribution: 1986 - 1990 85

C. Methodology for Estimating Drilling Costs 89

D. MAP I: Subdivisions of Alaska 95
MAP II: Subdivisions of California 96
MAP III: California Offshore 97
MAP IV: Subdivisions of Louisiana 98
MAP V: Louisiana Offshore 99
MAP VI: Subdivisions of New Mexico 100
MAP VII: Subdivisions of Texas 101
MAP VIII: Texas Offshore 102

TABLE OF CONTENTS (Cont.)

		Page
MAP IX:	Subdivisions of Offshore Federal Waters Alaska	103
MAP X:	Subdivisions of Offshore Federal Waters Atlantic Coast	104
MAP XI:	Subdivisions of Offshore Federal Waters Gulf of Mexico-Northern	105
MAP XII:	Subdivisions of Offshore Federal Waters Pacific Coast	106

1990 Joint Association Survey on Drilling Costs

EXECUTIVE SUMMARY

Last year, as revenues and earnings improved with the sharp rise in crude oil prices, the oil and gas industry spent more on drilling than the previous year.

According to the 1990 Joint Association Survey On Drilling Costs (JAS), the industry spent, on average, 13.1 percent more in 1990 to drill and equip wells than it did in 1989. Total drilling expenditures were estimated to be $10.9 billion in 1990, compared to $9.7 billion during the previous year.

The increase in drilling expenditures reflects an increase in the number of wells completed and footage drilled. This was the first time since 1984 that well completions were higher than the year before. Oil well completions and average drilling costs showed the highest year-to-year increase, which accounted for most of the increase in overall drilling costs.

Also contributing to the overall increase in drilling costs was an increase in the average cost per foot. This may have occurred, in part, due to an increase in the price of drilling goods and services. A comparison of the impact of price change alone on the JAS expenditures from 1989 to 1990 is discussed in the following section: "Isolating Drilling Cost Changes."

Horizontal drilling activity was up substantially during 1990. Information on the estimated cost of 1990 horizontal well completions is included in the section entitled "Horizontal Drilling." The number of coal-bed methane gas wells completed also jumped last year. Additional information on those wells is provided in the section entitled "Coal-Bed Methane Wells."

Executive Summary Table 1 provides a summary of 1990 drilling costs compared to 1989. Estimated average drilling costs for each state by well type and depth range are contained in the summary and state tables that begin on page 8. Data for the onshore and offshore areas are summarized, as well as data for exploratory and development wells.

Executive Summary Table 1

Total Wells, Footage Drilled & Estimated Drilling Expenditures: 1990 vs. 1989

	Oil Wells		Gas Wells		Dry Holes		Total	
	1990	Δ	1990	Δ	1990	Δ	1990	Δ
Total Wells	11,472	16.3%	9,474	7.3%	7,567	(5.4)	28,513	6.8
Ftg (000)	53,368	24.4	49,211	5.7	41,206	(2.0)	143,785	9.4
Total $ (mil.)	$3,692	32.6	$4,465	10.5	$2,781	(2.1)	$10,937	13.1
Avg. Depth (Ft.)	4,652	7.0	5,194	(1.4)	5,446	3.6	5,043	2.4
Avg. $/well	$321,800	14.0	$471,281	2.9	$367,500	3.4	$383,596	5.9
Avg. $/Ft.	$69.17	6.5	$90.73	4.5	$67.49	(0.2)	$76.07	3.4

Note: Totals may not agree with the sum of individual items due to rounding.

Isolating Drilling Cost Changes

Changes in "drilling costs" typically reflect changes in prices for drilling **comparable** wells from year to year, much as changes in the Consumer Price Index (CPI) reflect changes in prices for a similar "basket of goods" from year to year. However, total JAS drilling costs are also affected by the depth, type and location of wells drilled. Therefore, average "cost" per well and "cost" per foot will be susceptible to changes in the characteristics of wells drilled.

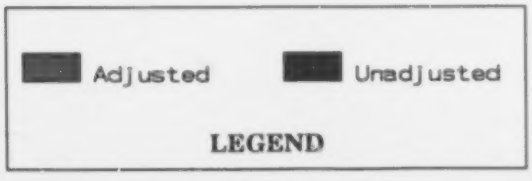
This means that in order to compare the impact of price change alone on the JAS drilling expenditures from one year to another, one must account for differences in depth, type and general location of wells drilled.

By numerically holding these factors constant to 1984, changes in drilling costs alone were calculated for 1989 and 1990. More specifically, the percentage of total wells and footage drilled represented by the smallest possible division in the data in 1984 was calculated and used to weight 1989 and 1990 expenditures per well and per foot. These weighted costs were then summed to arrive at an adjusted average cost per well and per foot for oil, gas and dry holes; onshore, offshore and total U.S.

The year 1984 was selected as the base year for indexing since the well population around that time was relatively stable and the data available for those wells relatively complete.

Redistributing the 1989 and 1990 JAS drilling costs to reflect the depth, type and general location of wells drilled in 1984 reveals an actual decrease in drilling costs. The figures to the right and Executive Summary Table 2, on the following page, show the 1990 drilling cost indices and changes in drilling costs on the new basis versus 1989.

One can also compare similar type wells at similar depths in similar locations to look at the impact of price change alone on the JAS drilling costs from year to year.



1990 DRILLING COST INDICES

Figure 1: United States (1984 = 100)

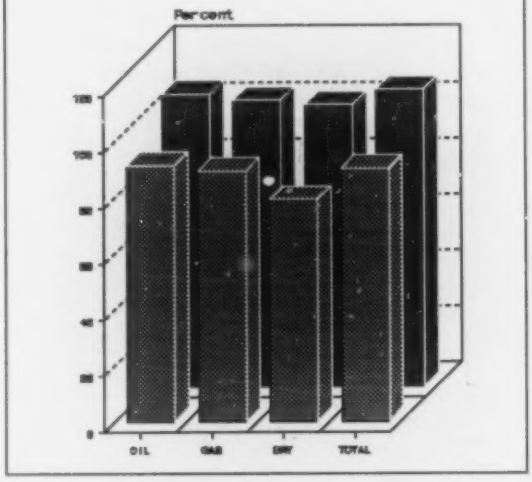


Figure 2: Onshore (1984 = 100)

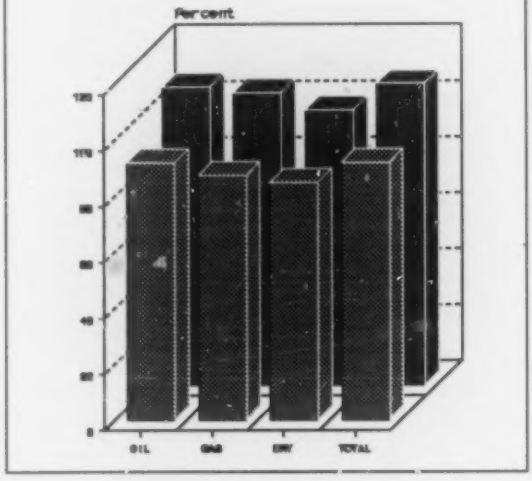
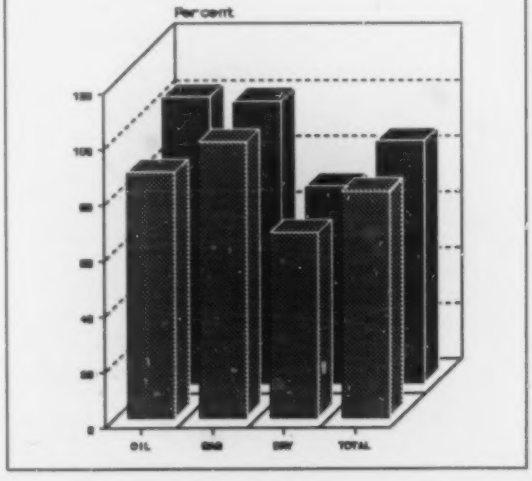


Figure 3: Offshore (1984 = 100)



Executive Summary Table 2

1990 Adjusted Average Drilling Cost Indices (1984 = 100)

	United States				Onshore Wells				Offshore Wells			
	1990 Avg Per Well	% Chg	1990 $ Per Foot	% Chg	1990 Avg Per Well	% Chg	1990 $ Per Foot	% Chg	1990 Avg Per Well	% Chg	1990 $ Per Foot	% Chg
Oil :												
"Cost"	91.8	10.3	91.6	10.2	92.5	10.6	92.1	10.3	87.1	8.1	88.1	10.4
"Expenditure"	122.8	14.0	104.3	6.5	125.7	22.4	106.4	13.2	107.9	-3.7	102.6	7.8
% Change	-25.2		-12.2		-26.4		-13.4		-19.3		-14.1	
Gas :												
"Cost"	89.7	2.4	89.5	2.6	87.6	-6.0	87.4	-0.8	98.7	17.9	98.8	18.7
"Expenditure"	96.2	2.9	102.2	4.5	98.4	3.7	104.3	4.7	98.8	15.2	101.2	17.3
% Change	-6.8		-12.4		-11.0		-16.2		-0.1		-2.4	
Dry :												
"Cost"	79.4	7.9	79.3	7.7	85.3	12.4	85.0	12.1	65.9	-3.8	66.5	-2.9
"Expenditure"	111.6	3.3	100.4	-0.2	107.8	17.7	98.1	12.9	64.9	-18.2	70.6	-14.5
% Change	-28.9		-21.0		-20.9		-13.4		1.5		-5.8	
Total :												
"Cost"	95.6	5.8	90.4	7.0	97.0	5.5	92.1	6.8	82.6	5.4	81.3	6.4
"Expenditure"	117.5	5.9	105.8	3.4	119.4	13.3	107.6	9.7	85.1	-5.9	86.7	-1.1
% Change	-18.6		-14.6		-18.8		-14.4		-2.9		-6.2	

"Expenditures" were based on JAS estimated drilling expenditures which are a function of depth, type, general location of wells drilled in the final year.

"Cost" numbers are redistributed well expenditures based on 1984 drilling activity. Percentage changes were based on a comparison of 1990 data to 1989.

Source : American Petroleum Institute, Joint Association Survey on Drilling Costs, 1984-1990.

Horizontal Drilling

In 1990, API began receiving additional well completion information that enabled it to identify horizontal wells. Executive Summary Table 3 contains a summary of 1990 horizontal well completions and drilling costs.

Executive Summary Table 3: 1990 Estimated Horizontal Well Costs

State/Area	Horizontal Wells	Total Footage	Total Cost
Alabama	1	15,354	1,347,753
California - East Central	1	1,680	119,592
Colorado	6	41,523	1,309,654
Illinois	1	3,005	53,350
Louisiana - North	11	17,557	492,360
Louisiana - Offshore	2	16,781	5,520,103
Michigan	1	10,877	1,423,708
Mississippi	2	10,964	2,826,013
Montana	6	57,421	4,572,368
New Mexico - East	1	4 [illegible]	200,239
New Mexico - West	1	6,197	319,658
North Dakota	70	901,561	94,353,014
Oklahoma	6	26,949	1,959,497
Texas RRC Dist. 1	571	5,266,468	434,779,197
Texas RRC Dist. 3	89	957,464	99,590,701
Texas RRC Dist. 5	1	3,409	276,000
Texas RRC Dist. 6	3	24,483	2,232,172
Texas RRC Dist. 7B	5	42,968	1,454,857
Texas RRC Dist. 7C	1	8,180	262,249
Texas RRC Dist. 8A	3	22,734	1,176,369
Wyoming	9	65,731	7,440,219
Total	**791**	**7,506,116**	**$661,709,073**

The average cost per foot for horizontal wells drilled in 1990 was significantly higher than the average cost per foot for wells not drilled horizontally. The average cost per foot for horizontal wells was $88.16, versus $75.40 for wells not drilled horizontally.

Horizontal wells were drilled an average distance of 9,489 feet. The average depth for wells not drilled horizontally was 4,916 feet.

Of the 791 horizontal wells drilled in 1990, 72.2 percent of the wells were drilled in Texas RRC District 1. The average cost per foot for these wells was $82.56. Horizontal oil wells represented 89.6 percent of all horizontal wells. Of the remaining 82 horizontal wells drilled, 6 were gas and 76 were dry holes.

The average cost per foot for horizontal oil wells was significantly higher than the average cost per foot for oil wells not drilled horizontally. The average footage drilled for the horizontal oil wells was 9,556 feet; the average cost per foot was $89.26. The average footage drilled for oil wells not drilled horizontally was 4,329 feet; the average cost per foot was $66.26.

Horizontal Drilling (Cont.)

The distribution of wells for horizontal versus non-horizontal, and oil, gas and dry versus total average completion costs varied.

Although one-third of all wells completed in 1990 were gas, less than 1 percent of the horizontal wells were gas wells. The average footage drilled for the 6 horizontal gas wells was 9,374 feet; the average cost per foot was $117.05.

Horizontal dry holes had an average footage drilled of 8,880 feet and an average cost per foot of $74.71, which was significantly higher than the $67.37 average cost per foot for dry holes not drilled horizontally. The average footage drilled for dry holes not drilled horizontally was 5,411 feet.

Coal-Bed Methane Gas Wells

In 1990, the industry took advantage of what, at the time, was a soon-to-expire tax credit and drilled 1,753 coal-bed methane wells at an estimated cost of over $418 million. Of those, 1,680 were gas wells with total costs of $408.5 million. The remaining were dry holes.

Section 29 of the Crude Oil Windfall Profit Act of 1980 provided the credit to encourage the production of nonconventional fuels. The original deadline had been extended by one year so that the credit applied to wells started before December 31, 1990. Ultimately, the deadline was extended again in 1991 for an additional two years.

Included in Executive Summary Table 4 are data on 1990 coal-bed methane gas well completions and estimated drilling costs.

Executive Summary Table 4
1990 Estimated Coal-Bed Methane (CBM) Gas Well Costs

State/Area	CBM Gas Wells	Total Footage	Estimated Cost
Alabama	843	2,222,946	190,238,644
Colorado	178	682,987	62,073,103
Illinois	15	7,400	270,836
Indiana	1	321	5,813
Kansas	24	25,500	631,157
New Mexico - East	2	3,217	303,535
New Mexico - West	581	1,736,055	151,482,139
Texas RRC Dist. 6	1	10,820	1,346,358
Wyoming	35	27,546	2,113,238
Total	**1,680**	**4,716,792**	**$408,464,823**

Note: These data are for coal-bed methane **gas** wells only; dry hole data are not included.

Coal-Bed Methane Wells (Cont.)

Over half of the coal-bed methane wells were drilled in Alabama, which drilled 843 of those wells last year. Total gas well completions for the state reached 936. This is a record high for Alabama in terms of the number of gas wells drilled in a year, moving the state into second place behind Texas in total gas wells drilled in the U.S. during 1990.

The 581 gas wells drilled in the Fruitland coal seams of West New Mexico accounted for almost 95 percent of all gas wells drilled in New Mexico. In Colorado, coal-bed methane activity may have contributed to a substantial 44.5 percent increase in the total number of gas wells in this state versus 1989.

The two most highly productive and intensely drilled geologic provinces were the Black Warrior Basin in Alabama, and the San Juan Basin in West New Mexico and Colorado. Together, they accounted for 95.4 percent of all U.S. coal-bed methane gas wells drilled last year.

Almost all of the coal-bed methane gas wells were drilled between 200 and 5,000 feet. The average cost per foot for these wells was $86.95. This is significantly higher than the $48.29 average cost per foot for all other gas wells drilled at that same depth range.

In Alabama, increased coal-bed activity may have been one reason for the substantial increase in gas drilling costs last year. Total spending on gas wells increased by almost 400 percent in 1990 compared to 1989. Most of those wells were shallow coal-bed methane and relatively expensive to drill. The cost per foot for Alabama gas wells -- $113.03 -- was up by almost 64.2 percent. This was almost 25 percent higher than the national average.

Although total drilling costs for gas wells in West New Mexico and Colorado increased 76.4 percent and 31 percent, respectively, the average cost per well and per foot stayed the same or decreased.

DESCRIPTION OF THE SURVEY

The 1990 Sample

Each year, JAS questionnaires are mailed to operators who have completed wells in the United States during the survey year. An "operator" is defined as the company with primary responsibility for drilling operations at the time of the completion of the well.

The 1990 universe was comprised of 28,513 well completions. Information on these wells was obtained primarily from the Petroleum Information Corporation, which tracks well completion data reported to the government. Questionnaires were mailed to 3,987 operators. Of those, 1,195 responded. The responding companies drilled 52 percent of total wells and accounted for 64 percent of total 1990 expenditures. The operators were asked to verify information included on the questionnaires regarding each well completion and to provide the total cost for each of the wells drilled. Response to the JAS is voluntary.

Information on the number of wells completed is also published in API's Quarterly Completion Report (QCR). There is often a lag between the time that a well is completed and the time that the completion is reported. Since the QCR is updated more frequently than the JAS, the number of wells that are included in the JAS is usually slightly fewer than the number of wells that ultimately appear in the QCR. The JAS contains wells completed during 1990 that were reported as of August 15, 1991.

A copy of the JAS questionnaire, definitions and instructions is in Appendix A. Appendix B has more detailed information on the distribution of the JAS sample for 1990 and previous years. Also included is a breakout of reported costs for exploratory and development wells, and for single and multiple completion wells.

Estimation of Total Costs

Regression analysis was used to predict the dependent variable -- petroleum industry drilling costs -- from the independent variable, well depth. Differences in the type and geographic location of wells were taken into consideration by stratifying the sample by area and by well type. Separate regression equations were then developed for these divisions.

Approximately 5 percent of the wells for which drilling cost information was not reported fell outside the depth range of the sample. In these cases, using regression analysis would not provide meaningful cost estimates. Instead, cost estimates were based on an analysis of costs in similar areas and of prior year's data.

Total estimated expenditures were obtained by adding the estimated costs for unreported wellsto the reported costs.

For lower depth ranges, the mean and median drilling costs were similar. However, as depth range increased, often the difference between these two measures increased also, so that the mean was substantially higher than the median. The estimated median drilling cost for each state is provided in Appendix C.

Appendix C also contains the standard errors of the estimates, which can be used to assess the precision attained in the survey. Confidence intervals can be constructed based on the standard errors that show the range in which the estimates will most likely fall. Based on the sample data, it is 95 percent certain that the estimate of total petroleum industry drilling costs is within plus or minus 15.7 percent of the actual value.

Finally, a more detailed description of the JAS methodology is included in Appendix C.

TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND ESTIMATED DRILLING

Table 1

STATE	OIL WELLS			GAS WELLS		
	WELLS DRILLED	TOTAL FOOTAGE	COST	WELLS DRILLED	TOTAL FOOTAGE	COST
ALABAMA[1]	32	310,966	21,793,495	936	2,567,899	290,253,826
ALASKA - ONSHORE	99	1,079,910	265,457,974	1	6,448	5,280,459
ALASKA - OFFSHORE	3	36,695	18,308,355	4	31,446	13,386,165
ALASKA - TOTAL	102	1,116,605	283,766,329	5	37,894	18,666,624
ARKANSAS	56	307,791	16,099,962	122	610,782	44,869,155
CALIFORNIA - NORTH	4	23,962	2,086,643	69	441,159	27,225,368
CALIFORNIA -CENTRAL COASTAL	59	270,815	39,209,301	--	--	--
CALIFORNIA - EAST CENTRAL	1,844	3,451,177	298,598,428	19	107,858	8,054,242
CALIFORNIA - SOUTH	28	82,373	5,285,120	--	--	--
CALIFORNIA - OFFSHORE	13	102,009	47,225,891	4	24,797	9,951,229
CALIFORNIA - TOTAL	1,948	3,930,336	392,405,383	92	573,814	45,230,839
COLORADO	136	843,288	31,380,698	682	3,828,613	208,425,401
FLORIDA	--	--	--	--	--	--
ILLINOIS	380	924,150	43,614,141	23	17,271	686,891
INDIANA	41	57,959	1,190,164	14	21,679	915,941
KANSAS	984	2,804,750	74,296,200	561	1,699,866	84,301,647
KENTUCKY	120	198,392	7,737,403	303	993,158	38,820,871
LOUISIANA - NORTH	259	881,235	47,380,669	234	1,343,382	114,735,856
LOUISIANA - SOUTH	159	1,271,988	119,031,634	133	1,597,371	290,747,669
LOUISIANA - OFFSHORE	52	485,334	150,214,835	147	1,514,231	554,156,301
LOUISIANA - TOTAL	470	2,638,557	316,627,138	514	4,454,984	959,639,826
MICHIGAN	32	167,392	13,801,607	789	1,497,577	102,626,861
MISSISSIPPI	74	813,078	76,472,205	55	388,004	48,229,413
MONTANA	38	281,834	19,950,900	190	294,993	15,631,518
NEBRASKA	36	188,019	5,447,320	--	--	--
NEW MEXICO - EAST	358	2,368,791	156,812,064	107	916,802	69,969,783
NEW MEXICO - WEST	72	400,672	20,865,281	616	1,860,074	161,364,338
NEW MEXICO - TOTAL	430	2,769,463	177,677,345	723	2,776,876	231,334,121
NORTH DAKOTA	164	1,630,891	142,637,946	5	58,533	6,302,481
OKLAHOMA	998	4,395,756	248,697,068	826	6,057,960	529,741,719
TEXAS RRC DIST. 1	699	5,544,059	443,324,771	69	469,782	43,850,452
TEXAS RRC DIST. 2	42	206,829	6,599,562	165	1,086,781	100,215,569
TEXAS RRC DIST. 3	222	1,727,182	147,904,555	141	1,181,328	128,726,588
TEXAS RRC DIST. 4	85	478,707	19,938,004	397	3,586,901	387,606,617
TEXAS RRC DIST. 5	79	223,662	15,998,524	88	954,317	87,809,573
TEXAS RRC DIST. 6	127	640,168	37,799,251	327	2,999,926	318,802,657
TEXAS RRC DIST. 7B	400	1,270,906	36,112,180	106	349,920	11,674,429
TEXAS RRC DIST. 7C	373	2,045,664	92,657,247	258	1,745,813	87,636,557
TEXAS RRC DIST. 8	969	6,247,889	326,385,123	40	243,914	21,205,891
TEXAS RRC DIST. 8A	608	3,481,514	168,697,225	1	6,021	186,495
TEXAS RRC DIST. 9	480	1,494,476	48,745,221	100	662,782	40,756,227
TEXAS RRC DIST. 10	97	458,250	24,730,004	101	682,909	37,582,095
TEXAS - OFFSHORE	16	159,272	50,677,153	40	367,131	124,513,959
TEXAS - TOTAL	4,197	23,978,578	1,419,568,820	1,833	14,337,525	1,390,567,109
UTAH	49	402,852	53,353,895	19	131,256	12,003,313
WYOMING	264	1,528,014	110,174,427	218	1,600,768	165,790,484
APPALACHIAN[2]	841	3,471,382	95,507,275	1,524	7,084,299	238,516,826
OFFSHORE FED. - ALASKA	--	--	--	--	--	--
OFFSHORE FED. - ATLANTIC	--	--	--	--	--	--
OFFSHORE FED. - GULF NORTH	52	506,276	133,030,853	8	78,977	26,926,143
OFFSHORE FED. - PACIFIC	--	--	--	--	--	--
OFFSHORE FED - TOTAL	52	506,276	133,030,853	8	78,977	26,926,143
OTHER UNITED STATES[3]	28	101,407	6,457,867	32	97,917	5,433,013
TOTAL OFFSHORE	136	1,289,586	399,457,087	209	2,088,961	794,796,399
TOTAL ONSHORE	11,336	52,078,150	3,292,231,354	9,265	47,121,684	3,670,117,623
TOTAL U.S.	11,472	53,367,736	3,691,688,441	9,474	49,210,645	4,464,914,022
EXPLORATORY WELLS	632	4,366,651	345,874,106	648	4,582,589	669,291,718
DEVELOPMENT WELLS	10,840	49,001,085	3,345,814,335	8,826	44,628,056	3,795,622,304

[1]Includes nine wells for Alabama Offshore.
[2]Includes New York, Ohio, Pennsylvania, and West Virginia.
[3]Includes Arizona, Iowa, Missouri, Nevada, Oregon, South Dakota, Tennessee, and Virginia.

COSTS FOR OIL AND GAS WELLS, AND DRY HOLES, BY STATE - 1990

Table 1

DRY HOLES			TOTAL WELLS			
WELLS DRILLED	TOTAL FOOTAGE	COST	WELLS DRILLED	TOTAL FOOTAGE	COST	STATE
129	778,078	72,952,199	1,097	3,656,943	384,999,520	ALABAMA[1]
6	49,327	18,431,555	106	1,135,685	289,169,988	ALASKA - ONSHORE
--	--	--	7	68,141	31,694,520	ALASKA - OFFSHORE
6	49,327	18,431,555	113	1,203,826	320,864,508	ALASKA - TOTAL
142	700,285	24,823,551	320	1,618,858	85,792,668	ARKANSAS
82	504,155	23,727,616	155	969,276	53,039,627	CALIFORNIA - NORTH
7	50,890	8,670,801	66	321,705	47,880,102	CALIFORNIA -CENTRAL COASTAL
43	204,599	22,647,544	1,906	3,763,634	329,300,214	CALIFORNIA - EAST CENTRAL
6	33,721	2,399,011	34	116,094	7,684,131	CALIFORNIA - SOUTH
--	--	--	17	126,806	57,177,120	CALIFORNIA - OFFSHORE
138	793,365	57,444,972	2,178	5,297,515	495,081,194	CALIFORNIA - TOTAL
294	1,520,136	41,299,241	1,112	6,192,037	281,105,340	COLORADO
10	136,127	6,461,830	10	136,127	6,461,830	FLORIDA
285	673,637	11,885,840	688	1,615,058	56,186,872	ILLINOIS
79	112,186	1,701,383	134	191,824	3,807,488	INDIANA
1,051	4,012,235	62,050,921	2,596	8,516,851	220,648,768	KANSAS
162	300,742	6,535,946	585	1,492,292	53,094,220	KENTUCKY
335	1,595,068	37,722,730	828	3,819,685	199,839,255	LOUISIANA - NORTH
218	2,478,292	294,555,896	510	5,347,651	704,335,199	LOUISIANA - SOUTH
203	2,048,639	445,809,998	402	4,048,204	1,150,181,134	LOUISIANA - OFFSHORE
756	6,121,999	778,088,624	1,740	13,215,540	2,054,355,588	LOUISIANA - TOTAL
153	871,899	70,482,925	974	2,536,868	186,911,393	MICHIGAN
148	1,229,611	71,881,419	277	2,430,693	196,583,037	MISSISSIPPI
98	346,149	12,020,461	326	922,976	47,602,879	MONTANA
80	407,289	6,684,574	116	595,308	12,131,894	NEBRASKA
114	756,052	34,764,250	579	4,041,645	261,546,097	NEW MEXICO - EAST
11	35,699	2,555,096	699	2,296,445	184,784,715	NEW MEXICO - WEST
125	791,751	37,319,346	1,278	6,338,090	446,330,812	NEW MEXICO - TOTAL
87	633,777	27,368,835	256	2,323,201	176,309,262	NORTH DAKOTA
818	4,564,568	236,327,135	2,642	15,018,284	1,014,765,922	OKLAHOMA
189	954,812	42,941,194	957	6,968,653	530,116,417	TEXAS RRC DIST. 1
214	1,297,290	62,104,550	421	2,590,900	168,919,681	TEXAS RRC DIST. 2
264	2,056,984	176,072,055	627	4,965,494	452,703,198	TEXAS RRC DIST. 3
217	1,649,288	113,581,353	699	5,714,896	521,125,974	TEXAS RRC DIST. 4
53	318,429	15,174,779	220	1,496,408	118,982,876	TEXAS RRC DIST. 5
121	912,797	41,325,178	575	4,552,891	397,927,086	TEXAS RRC DIST. 6
425	1,283,774	21,259,022	931	2,904,600	69,045,631	TEXAS RRC DIST. 7B
209	913,365	27,630,732	840	4,704,842	207,924,536	TEXAS RRC DIST. 7C
112	799,533	44,662,375	1,121	7,291,336	392,253,389	TEXAS RRC DIST. 8
148	1,006,235	34,099,176	757	4,493,770	202,982,896	TEXAS RRC DIST. 8A
341	1,107,065	20,120,434	921	3,264,323	109,621,882	TEXAS RRC DIST. 9
65	440,452	14,648,430	263	1,581,611	76,960,529	TEXAS RRC DIST. 10
99	931,567	222,781,159	155	1,457,970	397,972,271	TEXAS - OFFSHORE
2,457	13,671,591	836,400,437	8,487	51,987,694	3,646,536,366	TEXAS - TOTAL
22	134,548	12,120,528	90	668,656	77,477,736	UTAH
274	1,977,150	63,830,978	756	5,105,932	339,795,889	WYOMING
158	633,450	16,881,675	2,523	11,189,131	350,905,776	APPALACHIAN[2]
--	--	--	--	--	--	OFFSHORE FED. - ALASKA
--	--	--	--	--	--	OFFSHORE FED. - ATLANTIC
54	558,303	294,789,932	114	1,143,556	454,746,928	OFFSHORE FED. - GULF NORTH
--	--	--	--	--	--	OFFSHORE FED. - PACIFIC
54	558,303	294,789,932	114	1,143,556	454,746,928	OFFSHORE FED - TOTAL
41	183,237	13,087,148	101	387,561	24,978,028	OTHER UNITED STATES[3]
359	3,585,257	996,537,476	704	6,963,804	2,190,790,962	TOTAL OFFSHORE
7,208	37,621,183	1,784,333,979	27,809	136,821,017	8,746,682,956	TOTAL ONSHORE
7,567	41,206,440	2,780,871,455	28,513	143,784,821	10,937,473,918	TOTAL U.S.
3,561	21,091,144	1,530,883,768	4,841	30,040,384	2,546,049,592	EXPLORATORY WELLS
4,006	20,115,296	1,249,987,687	23,672	113,744,437	8,391,424,326	DEVELOPMENT WELLS

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TOTAL UNITED STATES--1990*

Table 2

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		1,632	369	666	2,667				
FOOTAGE	0 - 1,249	1,405,785	310,392	488,080	2,204,257	861	841	733	826
COSTS $		76,047,178	14,706,043	18,104,697	108,857,918	46,598	39,854	27,184	40,817
WELLS		2,075	2,064	959	5,098				
FOOTAGE	1,250 - 2,499	3,677,847	3,826,080	1,804,946	9,308,873	1,772	1,854	1,882	1,826
COSTS $		171,325,274	214,765,514	49,296,145	435,406,933	82,566	104,063	51,404	85,407
WELLS		1,719	1,823	1,139	4,681				
FOOTAGE	2,500 - 3,749	5,420,846	5,736,405	3,598,044	14,755,295	3,153	3,147	3,159	3,152
COSTS $		244,930,374	391,153,760	86,490,405	722,574,539	142,484	214,566	75,935	154,363
WELLS		1,696	1,057	1,337	4,090				
FOOTAGE	3,750 - 4,999	7,501,669	4,547,090	5,820,992	17,869,751	4,423	4,302	4,354	4,369
COSTS $		319,008,428	248,280,115	146,385,055	713,673,598	188,095	234,891	109,488	174,492
WELLS		1,934	1,961	1,645	5,540				
FOOTAGE	5,000 - 7,499	11,632,179	11,992,299	9,974,265	33,598,743	6,015	6,115	6,063	6,065
COSTS $		627,474,959	624,418,635	357,375,314	1,609,268,908	324,444	318,418	217,249	290,482
WELLS		1,565	1,189	886	3,640				
FOOTAGE	7,500 - 9,999	13,630,126	10,239,245	7,600,702	31,470,073	8,709	8,612	8,579	8,646
COSTS $		1,016,672,558	925,621,778	477,485,769	2,419,780,105	649,631	778,488	538,923	664,775
WELLS		581	605	513	1,699				
FOOTAGE	10,000 - 12,499	6,392,893	6,693,064	5,716,035	18,801,992	11,003	11,063	11,142	11,067
COSTS $		679,298,948	829,874,130	541,953,650	2,051,126,728	1,169,189	1,371,693	1,056,440	1,207,255
WELLS		230	288	274	792				
FOOTAGE	12,500 - 14,999	3,064,020	3,908,116	3,726,496	10,698,632	13,322	13,570	13,600	13,508
COSTS $		418,684,813	629,923,311	527,024,663	1,575,632,787	1,820,369	2,187,234	1,923,448	1,989,435
WELLS		34	91	110	235				
FOOTAGE	15,000 - 17,499	535,598	1,448,099	1,747,393	3,731,090	15,753	15,913	15,885	15,877
COSTS $		108,398,218	388,418,918	347,112,822	843,929,958	3,188,183	4,268,340	3,155,571	3,591,191
WELLS		6	21	31	58				
FOOTAGE	17,500 - 19,999	106,773	383,843	577,298	1,067,914	17,796	18,278	18,623	18,412
COSTS $		29,847,691	104,012,385	169,317,984	303,178,060	4,974,615	4,952,971	5,461,871	5,227,208
WELLS		--	6	7	13				
FOOTAGE	20,000 & OVER	--	126,012	152,189	278,201	--	21,002	21,741	21,400
COSTS $		--	93,719,433	60,324,951	154,044,384	--	15,619,906	8,617,850	11,849,568
TOTAL WELLS		11,472	9,474	7,567	28,513				
TOTAL FOOTAGE		53,367,736	49,210,645	41,206,440	143,784,821	4,652	5,194	5,446	5,043
TOTAL COSTS $		3,691,688,441	4,464,914,022	2,780,871,455	10,937,473,918	321,800	471,281	367,500	383,596

* Includes the following states and areas which are not shown separately: Alabama Offshore, Arizona, Iowa, Missouri, Nevada, New York, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Virginia, and West Virginia.

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TOTAL OFFSHORE

Table 3

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		—	--	1	1				
FOOTAGE	0 - 1,249	—	--	573	573	—	--	573	573
COSTS $		—	--	1,028,347	1,028,347	—	--	1,028,347	1,028,347
WELLS		—	3	7	10				
FOOTAGE	1,250 - 2,499	—	6,501	14,992	21,493	—	2,167	2,142	2,149
COSTS $		—	1,442,849	9,232,398	10,675,247	—	480,950	1,318,914	1,067,525
WELLS		3	3	9	15				
FOOTAGE	2,500 - 3,749	9,761	8,214	27,798	45,773	3,254	2,738	3,089	3,052
COSTS $		2,054,750	5,139,599	8,403,910	15,598,259	684,917	1,713,200	933,768	1,039,884
WELLS		9	13	12	34				
FOOTAGE	3,750 - 4,999	42,139	55,358	54,006	151,503	4,682	4,258	4,501	4,456
COSTS $		7,106,183	18,464,376	18,806,708	44,377,267	789,576	1,420,337	1,567,226	1,305,214
WELLS		23	34	49	106				
FOOTAGE	5,000 - 7,499	146,664	216,179	313,031	675,874	6,377	6,358	6,388	6,376
COSTS $		38,888,825	88,497,990	76,682,815	204,069,630	1,690,819	2,602,882	1,564,955	1,925,185
WELLS		48	57	100	205				
FOOTAGE	7,500 - 9,999	406,147	499,549	858,994	1,764,690	8,461	8,764	8,590	8,608
COSTS $		126,799,041	179,881,214	168,165,299	474,845,554	2,641,647	3,155,811	1,681,653	2,316,320
WELLS		26	42	95	163				
FOOTAGE	10,000 - 12,499	289,316	467,275	1,057,031	1,813,622	11,128	11,126	11,127	11,127
COSTS $		83,925,008	157,298,759	251,492,749	492,716,516	3,227,885	3,745,209	2,647,292	3,022,801
WELLS		17	38	56	111				
FOOTAGE	12,500 - 14,999	230,392	515,387	759,080	1,504,859	13,552	13,563	13,555	13,557
COSTS $		67,543,003	163,489,020	243,856,285	474,888,308	3,973,118	4,302,343	4,354,577	4,278,273
WELLS		7	15	24	46				
FOOTAGE	15,000 - 17,499	111,777	236,477	380,477	728,731	15,968	15,765	15,853	15,842
COSTS $		50,180,298	108,942,664	150,476,090	309,599,052	7,168,614	7,262,845	6,269,837	6,730,414
WELLS		3	1	4	8				
FOOTAGE	17,500 - 19,999	53,390	18,746	74,779	146,915	17,797	18,746	18,695	18,364
COSTS $		22,959,979	9,851,894	36,311,642	69,123,515	7,653,327	9,851,894	9,077,911	8,640,439
WELLS		--	3	2	5				
FOOTAGE	20,000 & OVER	—	65,275	44,496	109,771	—	21,758	22,248	21,954
COSTS $		—	61,788,034	32,081,233	93,869,267	—	20,596,011	16,040,617	18,773,853
TOTAL WELLS		136	209	359	704				
TOTAL FOOTAGE		1,289,586	2,088,961	3,585,257	6,963,804	9,482	9,995	9,987	9,892
TOTAL COSTS $		399,457,087	794,796,399	996,537,476	2,190,790,962	2,937,185	3,802,854	2,775,870	3,111,919

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TOTAL ONSHORE*

Table 4

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		1,632	369	665	2,666				
FOOTAGE	0 - 1,249	1,405,785	310,392	487,507	2,203,684	861	841	733	827
COSTS $		76,047,178	14,706,043	17,076,350	107,829,571	46,598	39,854	25,679	40,446
WELLS		2,075	2,061	952	5,088				
FOOTAGE	1,250 - 2,499	3,677,847	3,819,579	1,789,954	9,287,380	1,772	1,853	1,880	1,825
COSTS $		171,325,274	213,342,665	40,063,747	424,731,686	82,566	103,514	42,084	83,477
WELLS		1,716	1,820	1,130	4,666				
FOOTAGE	2,500 - 3,749	5,411,085	5,728,191	3,570,246	14,709,522	3,153	3,147	3,160	3,152
COSTS $		242,875,624	306,014,161	78,086,495	706,976,280	141,536	212,096	69,103	151,517
WELLS		1,687	1,044	1,325	4,056				
FOOTAGE	3,750 - 4,999	7,459,530	4,491,732	5,766,986	17,718,248	4,422	4,302	4,352	4,368
COSTS $		311,902,245	229,815,739	127,578,347	669,296,331	184,886	220,130	96,286	165,014
WELLS		1,911	1,927	1,596	5,434				
FOOTAGE	5,000 - 7,499	11,485,515	11,776,120	9,661,234	32,922,869	6,010	6,111	6,053	6,059
COSTS $		588,586,134	535,920,645	280,692,499	1,405,199,278	307,999	278,111	175,873	258,594
WELLS		1,517	1,132	786	3,435				
FOOTAGE	7,500 - 9,999	13,223,979	9,739,696	6,741,708	29,705,383	8,717	8,604	8,577	8,648
COSTS $		889,873,517	745,740,564	309,320,470	1,944,934,551	586,601	658,781	393,538	566,211
WELLS		555	563	418	1,536				
FOOTAGE	10,000 - 12,499	6,103,577	6,225,789	4,659,004	16,988,370	10,997	11,058	11,146	11,060
COSTS $		595,373,940	672,575,371	290,460,901	1,558,410,212	1,072,746	1,194,628	694,883	1,014,590
WELLS		213	250	218	681				
FOOTAGE	12,500 - 14,999	2,833,628	3,392,729	2,967,416	9,193,773	13,303	13,571	13,612	13,500
COSTS $		351,141,810	466,434,291	283,168,378	1,100,744,479	1,648,553	1,865,737	1,298,938	1,616,365
WELLS		27	76	86	189				
FOOTAGE	15,000 - 17,499	423,821	1,211,622	1,366,916	3,002,359	15,697	15,942	15,894	15,885
COSTS $		58,217,920	279,476,254	196,636,732	534,330,906	2,156,219	3,677,319	2,286,474	2,827,148
WELLS		3	20	27	50				
FOOTAGE	17,500 - 19,999	53,383	365,097	502,519	920,999	17,794	18,255	18,612	18,420
COSTS $		6,887,712	94,160,491	133,006,342	234,054,545	2,295,904	4,708,025	4,926,161	4,681,091
WELLS		—	3	5	8				
FOOTAGE	20,000 & OVER	—	60,737	107,693	168,430	—	20,246	21,539	21,054
COSTS $		—	31,931,399	28,243,718	60,175,117	—	10,643,800	5,648,744	7,521,890
TOTAL WELLS		11,336	9,265	7,208	27,809				
TOTAL FOOTAGE		52,078,150	47,121,684	37,621,183	136,821,017	4,594	5,086	5,219	4,920
TOTAL COSTS $		3,292,231,354	3,670,117,623	1,784,333,979	8,746,682,956	290,423	396,127	247,549	314,527

* Includes the following states and areas which are not shown separately: Arizona, Iowa, Missouri, Nevada, New York, Ohio, Oregon, Pennsylvania, South Dakota, Tennessee, Virginia, and West Virginia.

Table 5A

ESTIMATED COSTS OF EXPLORATORY & DEVELOPMENT WELLS - 1990

	TOTAL	UNITED STATES		LOWER 48 ON		LOWER 48 OFF		ALASKA ON & OFF	
		EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT
OIL:									
Total Wells	11,472	632	10,840	611	10,626	18	115	3	99
Footage	53,367,736	4,366,651	49,001,085	4,132,222	46,866,018	197,279	1,055,612	37,150	1,079,455
Cost $	3,691,688,441	345,874,106	3,345,814,335	266,373,976	2,760,399,404	60,419,692	320,729,040	19,080,438	264,685,891
$/Well	321,800	547,269	308,654	435,964	259,778	3,356,650	2,788,948	6,360,146	2,673,595
$/Foot	69.17	79.21	68.28	64.46	58.90	306.27	303.83	513.61	245.20
GAS:									
Total Wells	9,474	648	8,826	585	8,679	63	142	--	5
Footage	49,210,645	4,582,589	44,628,056	3,932,589	43,182,647	650,000	1,407,515	--	37,894
Cost $	4,464,914,022	669,291,718	3,795,622,304	422,219,521	3,242,617,643	247,072,197	534,338,037	--	18,666,624
$/Well	471,281	1,032,858	430,050	721,743	373,617	3,921,781	3,762,944	--	3,733,325
$/Foot	90.73	146.05	85.05	107.36	75.09	380.11	379.63	--	492.60
DRY:									
Total Wells	7,567	3,561	4,006	3,346	3,856	214	145	1	5
Footage	41,206,440	21,091,144	20,115,296	18,940,083	18,631,773	2,142,701	1,442,556	8,360	40,967
Cost $	2,780,871,455	1,530,883,768	1,249,987,687	882,921,415	882,981,010	645,480,353	351,057,122	2,482,000	15,949,555
$/Well	367,500	429,903	312,029	263,874	228,989	3,016,263	2,421,084	2,482,000	3,189,911
$/Foot	67.49	72.58	62.14	46.62	47.39	301.25	243.36	296.89	389.33
TOTAL:									
Total Wells	28,513	4,841	23,672	4,542	23,161	295	402	4	109
Footage	143,784,821	30,040,384	113,744,437	27,004,894	108,680,438	2,989,980	3,905,683	45,510	1,158,316
Cost $	10,937,473,918	2,546,049,592	8,391,424,326	1,571,514,912	6,885,998,057	952,972,242	1,206,124,199	21,562,438	299,302,070
$/Well	383,596	525,935	354,487	345,996	297,310	3,230,414	3,000,309	5,390,610	2,745,891
$/Foot	76.07	84.75	73.77	58.19	63.36	318.72	308.81	473.80	258.39

Table 5B

ESTIMATED COSTS OF EXPLORATORY & DEVELOPMENT WELLS - 1989

	TOTAL	UNITED STATES		LOWER 48 ON		LOWER 48 OFF		ALASKA ON & OFF	
		EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT
OIL:									
Total Wells	9,865	586	9,279	573	9,041	11	140	2	98
Footage	42,895,442	3,617,809	39,277,633	3,466,208	36,785,538	128,551	1,472,003	23,050	1,020,092
Cost $	2,784,624,996	242,249,955	2,542,375,041	191,093,955	1,845,099,407	44,994,021	398,005,890	6,161,979	299,269,744
$/Well	282,273	413,396	273,992	333,497	204,081	4,090,366	2,842,899	3,080,990	3,053,773
$/Foot	64.92	66.96	64.73	55.13	50.16	350.01	270.38	267.33	293.38
GAS:									
Total Wells	8,830	726	8,104	681	7,925	45	177	--	2
Footage	46,538,348	4,613,468	41,924,880	4,177,932	40,098,897	435,536	1,813,673	--	12,310
Cost $	4,042,289,099	553,087,523	3,489,201,576	400,645,577	2,945,034,258	152,441,946	542,224,707	--	1,942,611
$/Well	457,790	761,829	430,553	588,319	371,613	3,387,599	3,063,416	--	971,306
$/Foot	86.86	119.89	83.23	95.90	73.44	350.01	298.96	--	157.81
DRY:									
Total Wells	7,998	3,887	4,111	3,656	3,973	226	137	5	1
Footage	42,040,603	21,888,816	20,151,787	19,532,006	18,686,257	2,311,024	1,455,530	45,786	10,000
Cost $	2,842,424,987	1,614,526,442	1,227,898,545	821,601,551	803,965,829	769,734,538	367,681,832	23,190,353	56,250,884
$/Well	355,392	415,366	298,686	224,727	202,357	3,405,905	2,683,809	4,638,071	56,250,884
$/Foot	67.61	73.76	60.93	42.06	43.02	333.07	252.61	506.49	5625.09
TOTAL:									
Total Wells	26,693	5,199	21,494	4,910	20,939	282	454	7	101
Footage	131,474,393	30,120,093	101,354,300	27,176,146	95,570,692	2,875,111	4,741,206	68,836	1,042,402
Cost $	9,669,339,082	2,409,863,920	7,259,475,162	1,413,341,083	5,594,099,494	967,170,505	1,307,912,429	29,352,332	357,463,239
$/Well	362,243	463,525	337,744	287,850	267,162	3,429,683	2,880,864	4,193,190	3,539,240
$/Foot	73.55	80.01	71.62	52.01	58.53	336.39	275.86	426.41	342.92

Table 5C

ESTIMATED COSTS OF EXPLORATORY & DEVELOPMENT WELLS - 1988

	TOTAL	UNITED STATES		LOWER 48 ON		LOWER 48 OFF		ALASKA ON & OFF	
		EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT
OIL:									
Total Wells	12,434	805	11,629	793	11,340	11	167	1	122
Footage	55,781,320	5,053,554	50,727,766	4,910,670	47,765,259	133,293	1,670,208	9,591	1,292,299
Cost $	3,474,161,292	319,497,691	3,154,663,601	274,514,652	2,383,387,838	41,860,883	462,744,718	3,122,156	308,531,045
$/Well	279,408	396,892	271,276	346,172	210,175	3,805,535	2,770,926	3,122,156	2,528,943
$/Foot	62.28	63.22	62.19	55.90	49.90	314.05	277.06	325.53	238.75
GAS:									
Total Wells	7,820	728	7,092	677	6,948	49	143	2	1
Footage	42,522,358	4,943,809	37,578,549	4,412,523	35,924,752	512,222	1,651,481	19,064	2,316
Cost $	3,599,504,833	581,986,701	3,017,518,132	413,982,989	2,481,505,728	156,669,517	535,481,285	11,334,195	531,119
$/Well	460,295	799,432	425,482	611,496	357,154	3,197,337	3,744,624	5,667,098	531,119
$/Foot	84.65	117.72	80.30	93.82	69.08	305.86	324.24	594.53	229.33
DRY:									
Total Wells	9,487	4,597	4,890	4,243	4,749	351	139	3	2
Footage	51,912,100	27,425,124	24,486,976	23,661,954	22,890,305	3,727,610	1,573,747	35,560	22,924
Cost $	3,475,856,013	2,109,956,567	1,365,899,446	1,019,762,560	967,019,344	1,067,418,790	394,861,593	22,775,217	4,018,509
$/Well	366,381	458,986	279,325	240,340	203,626	3,041,079	2,840,731	7,591,739	2,009,255
$/Foot	66.96	76.94	55.78	43.10	42.25	286.35	250.91	640.47	175.30
TOTAL:									
Total Wells	29,741	6,130	23,611	5,713	23,037	411	449	6	125
Footage	150,215,778	37,422,487	112,793,291	32,985,147	106,580,316	4,373,125	4,895,436	64,215	1,317,539
Cost $	10,549,522,138	3,011,440,959	7,538,081,179	1,708,260,201	5,831,912,910	1,265,949,190	1,393,087,596	37,231,568	313,080,673
$/Well	354,713	491,263	319,261	299,013	253,154	3,080,168	3,102,645	6,205,261	2,504,645
$/Foot	70.23	80.47	66.83	51.79	54.72	289.48	284.57	579.80	237.63

Table 5D

ESTIMATED COSTS OF EXPLORATORY & DEVELOPMENT WELLS - 1987

	UNITED STATES		LOWER 48 ON		LOWER 48 OFF		ALASKA ON & OFF	
	TOTAL	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT
OIL:									
Total Wells	15,326	880	14,446	872	14,101	8	214	--	131
Footage	64,602,018	5,420,577	59,181,441	5,332,698	55,774,455	87,879	2,064,576	--	1,342,410
Cost $	3,769,429,677	305,844,176	3,463,585,501	261,007,106	2,531,446,290	44,837,070	644,429,056	--	287,710,155
$/Well	245,950	347,550	239,761	299,320	179,522	5,604,634	3,011,351	--	2,196,261
$/Foot	58.35	56.42	58.52	48.95	45.39	510.22	312.14	--	214.33
GAS:									
Total Wells	7,255	712	6,543	672	6,438	40	102	--	3
Footage	39,674,062	4,784,745	34,889,317	4,343,039	33,756,280	441,706	1,120,797	--	12,240
Cost $	2,759,469,842	469,131,767	2,290,338,075	351,496,589	1,974,913,532	117,635,178	312,006,218	--	3,418,325
$/Well	380,354	658,892	350,044	523,060	306,759	2,940,879	3,058,884	--	1,139,442
$/Foot	69.55	98.05	65.65	80.94	58.51	266.32	278.38	--	279.28
DRY:									
Total Wells	10,460	4,944	5,516	4,724	5,387	217	126	3	3
Footage	53,080,528	27,161,212	25,919,316	24,898,373	24,520,909	2,244,321	1,369,247	18,518	29,160
Cost $	2,709,849,950	1,467,572,948	1,242,277,002	901,363,815	865,693,917	562,746,460	342,184,143	3,462,673	34,398,942
$/Well	259,068	296,839	225,214	190,805	160,701	2,593,302	2,715,747	1,154,224	11,466,314
$/Foot	51.05	54.03	47.93	36.21	35.31	250.75	249.91	186.99	1,179.67
TOTAL:									
Total Wells	33,041	6,536	26,505	6,268	25,926	265	442	3	137
Footage	157,356,608	37,366,534	119,990,074	34,574,110	114,051,644	2,773,906	4,554,620	18,518	1,383,810
Cost $	9,238,749,469	2,242,548,891	6,996,200,578	1,513,867,510	5,372,053,739	725,218,708	1,298,619,417	3,462,673	325,527,422
$/Well	279,615	343,107	263,958	241,523	207,207	2,736,674	2,938,053	1,154,224	2,376,113
$/Foot	58.71	60.01	58.31	43.79	47.10	261.44	285.12	186.99	235.24

Table 5E

ESTIMATED COSTS OF EXPLORATORY & DEVELOPMENT WELLS - 1986

		UNITED STATES		LOWER 48 ON		LOWER 48 OFF		ALASKA ON & OFF	
	TOTAL	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT
OIL:									
Total Wells	18,198	1,045	17,153	1,028	16,611	17	306	--	236
Footage	75,847,341	6,502,692	69,344,649	6,293,341	64,221,491	209,351	2,820,902	--	2,302,256
Cost $	5,184,092,876	478,270,037	4,705,822,839	387,752,256	3,258,284,694	90,517,781	914,014,551	--	533,523,594
$/Well	284,872	457,675	274,344	377,191	196,152	5,324,575	2,986,976	--	2,260,693
$/Foot	68.35	73.55	67.86	61.62	50.74	432.38	324.02	--	231.74
GAS:									
Total Wells	7,351	791	6,560	722	6,419	69	138	--	3
Footage	41,323,958	5,524,675	35,799,283	4,780,893	34,225,014	743,782	1,551,621	--	22,648
Cost $	3,843,882,593	775,743,109	3,068,139,484	489,102,072	2,402,248,236	286,641,037	656,213,440	--	9,677,808
$/Well	522,906	980,712	467,704	677,427	374,240	4,154,218	4,755,170	--	3,225,936
$/Foot	93.02	140.41	85.70	102.31	70.19	385.39	422.93	--	427.32
DRY:									
Total Wells	11,624	5,293	6,331	5,053	6,194	233	123	7	14
Footage	59,118,290	30,266,985	28,851,305	27,531,288	27,410,041	2,673,564	1,315,308	62,133	125,956
Cost $	4,524,427,376	2,727,120,298	1,797,307,078	1,515,120,076	1,248,606,214	1,149,965,082	451,702,322	62,035,140	96,998,542
$/Well	389,232	515,232	283,890	299,846	201,583	4,935,472	3,672,377	8,862,163	6,928,467
$/Foot	76.53	90.10	62.30	55.04	45.56	430.13	343.42	998.43	770.10
TOTAL:									
Total Wells	37,173	7,129	30,044	6,803	29,224	319	567	7	253
Footage	176,289,589	42,294,352	133,995,237	38,605,522	125,856,546	3,626,697	5,687,831	62,133	2,450,859
Cost $	13,552,402,845	3,981,133,444	9,571,269,401	2,391,974,404	6,909,139,144	1,527,123,900	2,021,930,313	62,035,140	640,199,944
$/Well	364,577	558,443	318,575	351,606	236,420	4,787,222	3,566,015	8,862,163	2,530,434
$/Foot	76.88	94.13	71.43	61.96	54.90	421.08	355.48	998.43	261.21

Table 5F

ESTIMATED COSTS OF EXPLORATORY & DEVELOPMENT WELLS - 1985

		UNITED STATES		LOWER 48 ON		LOWER 48 OFF		ALASKA ON & OFF	
	TOTAL	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT
OIL:									
Total Wells	33,800	1,816	31,984	1,771	31,462	41	319	4	203
Footage	136,889,459	10,820,182	126,069,277	10,292,797	121,476,442	482,951	2,815,362	44,434	1,777,473
Cost $	9,141,070,223	1,012,277,334	8,128,792,889	682,621,977	6,817,724,042	246,417,234	925,347,489	83,238,123	385,721,358
$/Well	270,446	557,421	254,152	385,444	216,697	6,010,176	2,900,776	20,809,531	1,900,105
$/Foot	66.78	93.55	64.48	66.32	56.13	510.24	328.68	1,873.30	217.01
GAS:									
Total Wells	13,854	1,309	12,545	1,244	12,301	65	243	--	1
Footage	75,706,525	8,978,470	66,728,055	8,269,633	64,133,574	708,837	2,587,531	--	6,950
Cost $	7,047,141,673	1,293,200,491	5,753,941,182	1,010,879,169	4,713,608,794	282,321,322	1,037,630,794	--	2,701,594
$/Well	508,672	987,930	458,664	812,604	383,189	4,343,405	4,270,086	--	2,701,594
$/Foot	93.09	144.03	86.23	122.24	73.50	398.29	401.02	--	388.72
DRY:									
Total Wells	20,167	8,920	11,247	8,575	11,014	330	228	15	5
Footage	101,894,370	49,900,682	51,993,688	46,113,362	49,546,700	3,632,854	2,393,764	154,466	53,224
Cost $	7,508,390,650	4,386,904,495	3,121,486,155	2,520,790,629	2,361,252,619	1,522,996,406	703,240,551	343,117,460	56,992,985
$/Well	372,311	491,806	277,539	293,970	214,386	4,615,141	3,084,388	22,874,497	11,398,597
$/Foot	73.69	87.91	60.04	54.67	47.66	419.23	293.78	2,221.32	1,070.82
TOTAL:									
Total Wells	67,821	12,045	55,776	11,590	54,777	436	790	19	209
Footage	314,490,354	69,699,334	244,791,020	64,675,792	235,156,716	4,824,642	7,796,657	198,900	1,837,647
Cost $	23,696,602,546	6,692,382,320	17,004,220,226	4,214,291,775	13,892,585,455	2,051,734,962	2,666,218,834	426,355,583	445,415,937
$/Well	349,399	555,615	304,866	363,615	253,621	4,705,814	3,374,961	22,439,767	2,131,177
$/Foot	75.35	96.02	69.46	65.16	59.08	425.26	341.97	2,143.57	242.38

Table 5G

ESTIMATED COSTS OF EXPLORATORY & DEVELOPMENT WELLS - 1984

		UNITED STATES		LOWER 48 ON		LOWER 48 OFF		ALASKA ON & OFF	
	TOTAL	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT
OIL:									
Total Wells	38,976	2,312	36,664	2,270	36,069	33	449	9	146
Footage	154,017,558	12,893,298	141,124,260	12,465,704	135,870,661	351,680	3,985,335	75,914	1,268,264
Cost $	10,214,239,788	1,032,819,926	9,181,419,862	827,416,064	7,707,324,053	156,484,238	1,149,415,854	48,919,624	324,679,955
$/Well	262,065	446,721	250,421	364,500	213,683	4,741,947	2,559,946	5,435,514	2,223,835
$/Foot	66.32	80.11	65.06	66.38	56.73	444.96	288.42	644.41	256.01
GAS:									
Total Wells	14,983	1,548	13,435	1,469	13,141	79	293	--	1
Footage	82,644,168	10,243,622	72,400,546	9,406,020	69,442,327	837,602	2,949,987	--	8,232
Cost $	7,338,788,168	1,391,529,462	5,947,258,706	997,975,561	4,981,763,897	393,553,901	959,082,212	--	6,412,597
$/Well	489,808	898,921	442,669	679,357	379,101	4,981,695	3,273,318	--	6,412,597
$/Foot	88.80	135.84	82.14	106.10	71.74	469.86	325.12	--	778.98
DRY:									
Total Wells	23,251	10,636	12,615	10,276	12,408	350	206	10	1
Footage	113,927,000	57,932,864	55,994,136	53,889,481	53,904,255	3,944,901	2,086,469	98,482	3,412
Cost $	7,653,191,350	4,677,741,971	2,975,449,379	2,828,967,887	2,409,429,330	1,709,132,241	565,098,809	139,641,843	921,240
$/Well	329,155	439,803	235,867	275,299	194,184	4,883,235	2,743,198	13,964,184	921,240
$/Foot	67.18	80.74	53.14	52.50	44.70	433.25	270.84	1,417.95	270.00
TOTAL:									
Total Wells	77,210	14,496	62,714	14,015	61,618	462	948	19	148
Footage	350,588,726	81,069,784	269,518,942	75,761,205	259,217,243	5,134,183	9,021,791	174,395	1,279,908
Cost $	25,206,219,306	7,102,091,359	18,104,127,947	4,654,359,512	15,098,517,280	2,259,170,380	2,673,596,875	188,561,467	332,013,792
$/Well	326,463	489,935	288,678	332,099	245,034	4,889,979	2,820,250	9,924,288	2,243,336
$/Foot	71.90	87.60	67.17	61.43	58.25	440.03	296.35	1,081.23	259.40

Table 5H

ESTIMATED COSTS OF EXPLORATORY & DEVELOPMENT WELLS - 1983

		UNITED STATES		LOWER 48 ON		LOWER 48 OFF		ALASKA ON & OFF	
	TOTAL	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT
OIL:									
Total Wells	33,485	1,997	31,488	1,974	30,878	23	434	--	176
Footage	130,823,929	10,588,920	120,235,009	10,322,333	114,493,043	266,587	4,030,421	--	1,711,545
Cost $	9,503,761,060	911,808,796	8,591,952,264	753,739,638	6,749,222,783	158,069,158	1,324,342,116	--	518,387,365
$/Well	283,821	456,590	272,864	381,834	218,577	7,184,962	3,051,480	--	2,945,383
$/Foot	72.65	86.11	71.46	73.02	58.95	592.94	328.59	--	302.88
GAS:									
Total Wells	12,919	1,577	11,342	1,507	11,119	70	223	--	--
Footage	72,487,344	10,728,449	61,758,895	9,991,160	59,371,691	737,289	2,387,204	--	--
Cost $	7,855,762,324	1,826,244,202	6,029,518,122	1,479,255,400	5,163,474,132	346,988,802	866,043,990	--	--
$/Well	608,078	1,158,050	531,610	981,590	464,383	4,956,983	3,883,601	--	--
$/Foot	108.37	170.22	97.63	148.06	86.97	470.63	362.79	--	--
DRY:									
Total Wells	21,132	9,241	11,891	8,987	11,620	248	269	6	2
Footage	97,914,559	47,163,978	50,750,581	44,445,962	47,994,938	2,634,835	2,743,603	83,181	12,040
Cost $	7,745,019,229	4,432,949,300	3,312,069,929	2,889,188,642	2,512,884,762	1,408,744,082	794,578,838	135,016,576	4,606,329
$/Well	366,507	479,704	278,536	321,485	216,255	5,680,420	2,953,825	22,502,763	2,303,165
$/Foot	79.10	93.99	65.26	65.01	52.36	534.67	289.62	1,623.17	382.59
TOTAL:									
Total Wells	67,536	12,815	54,721	12,468	53,617	341	926	6	178
Footage	301,225,832	68,481,347	232,744,485	64,759,455	221,859,672	3,638,711	9,161,228	83,181	1,723,585
Cost $	25,104,542,613	7,171,002,298	17,933,540,315	5,122,183,680	14,425,581,677	1,913,802,042	2,984,964,944	135,016,576	522,993,694
$/Well	371,721	559,579	327,727	410,826	269,049	5,612,323	3,223,504	22,502,763	2,938,167
$/Foot	83.34	104.71	77.05	79.10	65.02	525.96	325.83	1,623.17	303.43

Table 5I

ESTIMATED COSTS OF EXPLORATORY & DEVELOPMENT WELLS - 1982

		UNITED STATES		LOWER 48 ON		LOWER 48 OFF		ALASKA ON & OFF	
	TOTAL	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT
OIL:									
Total Wells	35,865	2,367	33,498	2,332	32,883	31	452	4	163
Footage	144,304,502	13,645,445	130,659,057	13,262,696	125,106,461	327,859	3,904,391	54,890	1,648,205
Cost $	12,458,580,454	1,699,983,767	10,758,596,687	1,407,456,916	8,903,385,048	215,773,481	1,310,084,702	76,753,370	545,126,937
$/Well	347,374	718,202	321,172	603,541	270,760	6,960,435	2,898,417	19,188,343	3,344,337
$/Foot	86.34	124.58	82.34	106.13	71.17	658.13	335.55	1,398.32	330.74
GAS:									
Total Wells	17,052	2,117	14,935	2,017	14,585	100	342	--	8
Footage	100,803,518	15,459,989	85,343,529	14,344,031	81,820,950	1,115,958	3,475,645	--	46,934
Cost $	14,737,668,260	3,275,526,928	11,462,141,332	2,694,071,886	9,847,204,570	581,455,042	1,583,599,162	--	31,337,600
$/Well	864,278	1,547,250	767,469	1,335,683	675,160	5,814,550	4,630,407	--	3,917,200
$/Foot	146.20	211.87	134.31	187.82	120.35	521.04	455.63	--	667.70
DRY:									
Total Wells	23,735	10,648	13,087	10,311	12,870	327	207	10	10
Footage	117,510,149	59,736,669	57,773,480	56,091,478	55,556,512	3,531,430	2,122,457	113,761	94,511
Cost $	12,231,869,854	7,451,293,253	4,780,576,601	5,607,193,206	4,028,017,726	1,698,568,649	703,109,660	145,531,398	49,449,215
$/Well	515,352	699,783	365,292	543,807	312,977	5,194,400	3,396,665	14,553,140	4,944,922
$/Foot	104.09	124.74	82.75	99.97	72.51	480.99	331.28	1,279.28	523.21
TOTAL:									
Total Wells	76,652	15,132	61,520	14,660	60,338	458	1,001	14	181
Footage	362,618,169	88,842,103	273,776,066	83,698,205	262,483,923	4,975,247	9,502,493	168,651	1,789,650
Cost $	39,428,118,568	12,426,803,948	27,001,314,620	9,708,722,008	22,778,607,344	2,495,797,172	3,596,793,524	222,284,768	625,913,752
$/Well	514,378	821,227	438,903	662,259	377,517	5,449,339	3,593,200	15,877,484	3,458,087
$/Foot	108.73	139.88	98.63	116.00	86.78	501.64	378.51	1,318.02	349.74

Table 5J

ESTIMATED COSTS OF EXPLORATORY & DEVELOPMENT WELLS - 1981

		UNITED STATES		LOWER 48 ON		LOWER 48 OFF		ALASKA ON & OFF	
	TOTAL	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT	EXPLORATORY	DEVELOPMENT
OIL:									
Total Wells	38,725	2,519	36,206	2,488	35,688	28	387	3	131
Footage	161,982,066	15,372,482	146,609,584	15,072,425	142,056,037	266,520	3,200,748	33,537	1,352,799
Cost $	13,022,804,253	1,673,938,696	11,348,865,557	1,519,011,508	10,002,082,465	118,488,137	955,840,656	36,439,051	390,942,436
$/Well	336,289	664,525	313,453	610,535	280,265	4,231,719	2,469,873	12,146,350	2,984,293
$/Foot	80.40	108.89	77.41	100.78	70.41	444.58	298.63	1,086.53	288.99
GAS:									
Total Wells	17,533	2,426	15,107	2,334	14,677	88	427	4	3
Footage	100,257,519	17,659,089	82,598,430	16,656,494	78,365,395	963,138	4,204,814	39,457	28,221
Cost $	12,248,133,650	3,219,390,407	9,028,743,243	2,723,442,669	7,347,178,017	448,566,417	1,673,603,352	47,381,321	7,961,874
$/Well	698,576	1,327,036	597,653	1,166,856	500,591	5,097,346	3,919,446	11,845,330	2,653,958
$/Foot	122.17	182.31	109.31	163.51	93.76	465.74	398.02	1,200.83	282.13
DRY:									
Total Wells	24,558	11,582	12,976	11,237	12,760	331	215	14	1
Footage	126,560,512	68,081,137	58,479,375	64,278,844	56,345,152	3,663,270	2,123,980	139,023	10,243
Cost $	11,394,518,597	7,291,458,962	4,103,059,635	5,441,968,974	3,408,259,283	1,663,426,966	690,826,536	186,063,022	3,973,816
$/Well	463,984	629,551	316,204	484,290	267,105	5,025,459	3,213,147	13,290,216	3,973,816
$/Foot	90.03	107.10	70.16	84.67	60.49	454.09	325.25	1,338.36	387.95
TOTAL:									
Total Wells	80,816	16,527	64,289	16,059	63,125	447	1,029	21	135
Footage	388,800,097	101,113,708	287,687,389	96,007,763	276,766,584	4,892,928	9,529,542	212,017	1,391,263
Cost $	36,665,456,500	12,184,788,065	24,480,668,435	9,684,423,151	20,757,519,765	2,230,481,520	3,320,270,544	269,883,394	402,878,126
$/Well	453,691	737,265	380,791	603,052	328,832	4,989,892	3,226,697	12,851,590	2,984,282
$/Foot	94.30	120.51	85.09	100.87	75.00	455.86	348.42	1,272.93	289.58

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

ALABAMA*

Table 6

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		—	1	34	35				
FOOTAGE	0 - 1,249	—	1,115	15,483	16,598	—	1,115	455	474
COSTS $		—	80,688	6,429,239	6,509,927	—	80,688	189,095	185,998
WELLS		2	566	19	587				
FOOTAGE	1,250 - 2,499	4,843	1,143,414	37,566	1,185,823	2,422	2,020	1,977	2,020
COSTS $		290,429	78,401,937	2,992,345	81,684,711	145,215	138,519	157,492	139,156
WELLS		2	209	17	228				
FOOTAGE	2,500 - 3,749	5,561	664,026	49,078	718,665	2,781	3,177	2,887	3,152
COSTS $		288,998	69,960,543	1,921,851	72,171,392	144,499	334,739	113,050	316,541
WELLS		—	146	3	149				
FOOTAGE	3,750 - 4,999	—	578,393	13,137	591,530	—	3,962	4,379	3,970
COSTS $		—	56,821,447	494,964	57,316,411	—	389,188	164,988	384,674
WELLS		12	6	18	36				
FOOTAGE	5,000 - 7,499	73,776	33,234	110,819	217,829	6,148	5,539	6,157	6,051
COSTS $		3,300,212	4,229,702	4,335,987	11,865,901	275,018	704,950	240,888	329,608
WELLS		—	--	--	--				
FOOTAGE	7,500 - 9,999	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
WELLS		1	--	6	7				
FOOTAGE	10,000 - 12,499	12,146	--	71,516	83,662	12,146	--	11,919	11,952
COSTS $		775,513	--	2,883,170	3,658,683	775,513	--	480,528	522,669
WELLS		11	--	26	37				
FOOTAGE	12,500 - 14,999	153,971	--	368,484	522,455	13,997	--	14,172	14,120
COSTS $		11,886,985	--	17,969,248	29,856,233	1,080,635	--	691,125	806,925
WELLS		4	4	2	10				
FOOTAGE	15,000 - 17,499	60,669	63,900	30,103	154,672	15,167	15,975	15,052	15,467
COSTS $		5,251,358	13,278,191	1,375,155	19,904,704	1,312,840	3,319,548	687,578	1,990,470
WELLS		—	1	2	3				
FOOTAGE	17,500 - 19,999	—	18,542	37,396	55,938	—	18,542	18,698	18,646
COSTS $		—	5,693,284	2,469,007	8,162,291	—	5,693,284	1,234,504	2,720,764
WELLS		—	3	2	5				
FOOTAGE	20,000 & OVER	—	65,275	44,496	109,771	—	21,758	22,248	21,954
COSTS $		—	61,788,034	32,081,233	93,869,267	—	20,596,013	16,040,617	18,773,855
TOTAL WELLS		32	936	129	1,097				
TOTAL FOOTAGE		310,966	2,567,899	778,078	3,656,943	9,718	2,743	6,032	3,334
TOTAL COSTS $		21,793,495	290,253,826	72,952,199	384,999,520	681,047	310,100	565,521	350,957

* Includes nine wells for Alabama Offshore, six gas wells and three dry holes.

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

ALASKA - TOTAL

Table 7

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	1,250 - 2,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	2,500 - 3,749	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		2	--	--	2				
FOOTAGE	3,750 - 4,999	9,690	--	--	9,690	4,845	--	--	4,845
COSTS $		2,192,847	--	--	2,192,847	1,096,424	--	--	1,096,424
WELLS		4	2	2	8				
FOOTAGE	5,000 - 7,499	24,654	12,048	14,580	51,282	6,164	6,024	7,290	6,410
COSTS $		7,299,128	7,866,624	6,606,835	21,772,587	1,824,782	3,933,312	3,303,418	2,721,574
WELLS		25	3	4	32				
FOOTAGE	7,500 - 9,999	225,350	25,846	34,747	285,943	9,014	8,615	8,687	8,936
COSTS $		48,413,851	10,800,000	11,824,720	71,038,571	1,936,554	3,600,000	2,956,180	2,219,955
WELLS		46	--	--	46				
FOOTAGE	10,000 - 12,499	507,720	--	--	507,720	11,037	--	--	11,037
COSTS $		135,082,550	--	--	135,082,550	2,936,577	--	--	2,936,577
WELLS		22	--	--	22				
FOOTAGE	12,500 - 14,999	301,420	--	--	301,420	13,701	--	--	13,701
COSTS $		77,082,035	--	--	77,082,035	3,503,729	--	--	3,503,729
WELLS		3	--	--	3				
FOOTAGE	15,000 - 17,499	47,771	--	--	47,771	15,924	--	--	15,924
COSTS $		13,695,918	--	--	13,695,918	4,565,306	--	--	4,565,306
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		102	5	6	113				
TOTAL FOOTAGE		1,116,605	37,894	49,327	1,203,826	10,947	7,579	8,221	10,653
TOTAL COSTS $		283,766,329	18,666,624	18,431,555	320,864,508	2,782,023	3,733,325	3,071,926	2,839,509

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

ALASKA - ONSHORE

Table 8

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	1,250 - 2,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	2,500 - 3,749	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		2	--	--	2				
FOOTAGE	3,750 - 4,999	9,690	--	--	9,690	4,845	--	--	4,845
COSTS $		2,192,847	--	--	2,192,847	1,096,424	--	--	1,096,424
WELLS		4	1	2	7				
FOOTAGE	5,000 - 7,499	24,654	6,448	14,580	45,682	6,164	6,448	7,290	6,526
COSTS $		7,299,128	5,280,459	6,606,835	19,186,422	1,824,782	5,280,459	3,303,418	2,740,918
WELLS		25	--	4	29				
FOOTAGE	7,500 - 9,999	225,350	--	34,747	260,097	9,014	--	8,687	8,969
COSTS $		48,413,851	--	11,824,720	60,238,571	1,936,554	--	2,956,180	2,077,192
WELLS		44	--	--	44				
FOOTAGE	10,000 - 12,499	484,025	--	--	484,025	11,001	--	--	11,001
COSTS $		120,917,342	--	--	120,917,342	2,748,122	--	--	2,748,122
WELLS		21	--	--	21				
FOOTAGE	12,500 - 14,999	288,420	--	--	288,420	13,734	--	--	13,734
COSTS $		72,938,888	--	--	72,938,888	3,473,281	--	--	3,473,281
WELLS		3	--	--	3				
FOOTAGE	15,000 - 17,499	47,771	--	--	47,771	15,924	--	--	15,924
COSTS $		13,695,918	--	--	13,695,918	4,565,306	--	--	4,565,306
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		99	1	6	106				
TOTAL FOOTAGE		1,079,910	6,448	49,327	1,135,685	10,908	6,448	8,221	10,714
TOTAL COSTS $		265,457,974	5,280,459	18,431,555	289,169,988	2,681,394	5,280,459	3,071,926	2,728,019

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

ALASKA - OFFSHORE

Table 9

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	1,250 - 2,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	2,500 - 3,749	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	3,750 - 4,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	1	--	1				
FOOTAGE	5,000 - 7,499	--	5,600	--	5,600	--	5,600	--	5,600
COSTS $		--	2,586,165	--	2,586,165	--	2,586,165	--	2,586,165
WELLS		--	3	--	3				
FOOTAGE	7,500 - 9,999	--	25,846	--	25,846	--	8,615	--	8,615
COSTS $		--	10,800,000	--	10,800,000	--	3,600,000	--	3,600,000
WELLS		2	--	--	2				
FOOTAGE	10,000 - 12,499	23,695	--	--	23,695	11,848	--	--	11,848
COSTS $		14,165,208	--	--	14,165,208	7,082,604	--	--	7,082,604
WELLS		1	--	--	1				
FOOTAGE	12,500 - 14,999	13,000	--	--	13,000	13,000	--	--	13,000
COSTS $		4,143,147	--	--	4,143,147	4,143,147	--	--	4,143,147
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		3	4	--	7				
TOTAL FOOTAGE		36,695	31,446	--	68,141	12,232	7,862	--	9,734
TOTAL COSTS $		18,308,355	13,386,165	--	31,694,520	6,102,785	3,346,541	--	4,527,789

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

ARKANSAS

Table 10

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		—	8	6	14				
FOOTAGE	0 - 1,249	—	8,431	6,092	14,523	—	1,054	1,015	1,037
COSTS $		—	208,439	139,207	347,646	—	26,055	23,201	24,832
WELLS		4	11	13	28				
FOOTAGE	1,250 - 2,499	8,011	24,391	25,028	57,430	2,003	2,217	1,925	2,051
COSTS $		366,021	1,008,279	657,868	2,032,168	91,505	91,662	50,605	72,577
WELLS		18	20	39	77				
FOOTAGE	2,500 - 3,749	53,905	60,286	121,710	235,901	2,995	3,014	3,121	3,064
COSTS $		2,764,560	2,945,773	3,069,020	8,779,353	153,587	147,289	78,693	114,018
WELLS		5	21	20	46				
FOOTAGE	3,750 - 4,999	20,312	90,420	84,501	195,233	4,062	4,306	4,225	4,244
COSTS $		795,268	6,211,948	2,282,581	9,289,797	159,054	295,807	114,129	201,952
WELLS		15	48	41	104				
FOOTAGE	5,000 - 7,499	94,274	297,083	251,913	643,270	6,285	6,189	6,144	6,185
COSTS $		3,802,913	23,347,684	9,406,947	36,557,544	253,528	486,410	229,438	351,515
WELLS		11	10	18	39				
FOOTAGE	7,500 - 9,999	95,746	85,051	154,376	335,173	8,704	8,505	8,576	8,594
COSTS $		4,623,822	5,948,762	5,928,194	16,500,778	420,347	594,876	329,344	423,097
WELLS		3	4	4	11				
FOOTAGE	10,000 - 12,499	35,543	45,120	44,165	124,828	11,848	11,280	11,041	11,348
COSTS $		3,747,378	5,198,270	2,337,009	11,282,657	1,249,126	1,299,568	584,252	1,025,696
WELLS		—	--	1	1				
FOOTAGE	12,500 - 14,999	—	--	12,500	12,500	—	--	12,500	12,500
COSTS $		—	--	1,002,725	1,002,725	—	--	1,002,725	1,002,725
WELLS		—	--	--	--				
FOOTAGE	15,000 - 17,499	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
WELLS		—	--	--	--				
FOOTAGE	17,500 - 19,999	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
WELLS		—	--	--	--				
FOOTAGE	20,000 & OVER	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
TOTAL WELLS		56	122	142	320				
TOTAL FOOTAGE		307,791	610,782	700,285	1,618,858	5,496	5,006	4,932	5,059
TOTAL COSTS $		16,099,962	44,869,155	24,823,551	85,792,668	287,499	367,780	174,814	268,102

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

CALIFORNIA - TOTAL

Table 11

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		647	--	8	655				
FOOTAGE	0 - 1,249	618,891	--	6,197	625,088	957	--	775	954
COSTS $		52,632,455	--	349,063	52,981,518	81,348	--	43,633	80,888
WELLS		862	2	15	879				
FOOTAGE	1,250 - 2,499	1,390,103	3,804	26,155	1,420,062	1,613	1,902	1,744	1,616
COSTS $		96,040,082	294,609	1,629,499	97,964,190	111,415	147,305	108,633	111,450
WELLS		267	7	11	285				
FOOTAGE	2,500 - 3,749	821,095	22,215	35,567	878,877	3,075	3,174	3,233	3,084
COSTS $		57,043,224	1,425,866	1,837,423	60,306,513	213,645	203,695	167,038	211,602
WELLS		73	20	21	114				
FOOTAGE	3,750 - 4,999	337,541	84,833	91,020	513,394	4,624	4,242	4,334	4,503
COSTS $		43,260,040	7,813,856	4,956,054	56,029,950	592,603	390,693	236,003	491,491
WELLS		61	36	44	141				
FOOTAGE	5,000 - 7,499	357,657	227,073	267,773	852,503	5,863	6,308	6,086	6,046
COSTS $		47,547,123	17,698,636	15,123,130	80,368,889	779,461	491,629	343,708	569,992
WELLS		21	25	29	75				
FOOTAGE	7,500 - 9,999	178,111	213,858	244,773	636,742	8,481	8,554	8,440	8,490
COSTS $		34,921,519	12,441,027	16,699,877	64,062,423	1,662,930	497,641	575,858	854,166
WELLS		5	2	5	12				
FOOTAGE	10,000 - 12,499	57,758	22,031	50,915	130,704	11,552	11,016	10,183	10,892
COSTS $		8,343,264	5,556,845	4,791,084	18,691,193	1,668,653	2,778,423	958,217	1,557,599
WELLS		10	--	4	14				
FOOTAGE	12,500 - 14,999	134,626	--	55,965	190,591	13,463	--	13,991	13,614
COSTS $		24,571,969	--	8,650,474	33,222,443	2,457,197	--	2,162,619	2,373,032
WELLS		1	--	1	2				
FOOTAGE	15,000 - 17,499	16,654	--	15,000	31,654	16,654	--	15,000	15,827
COSTS $		15,030,078	--	3,408,368	18,438,446	15,030,078	--	3,408,368	9,219,223
WELLS		1	--	--	1				
FOOTAGE	17,500 - 19,999	17,900	--	--	17,900	17,900	--	--	17,900
COSTS $		13,015,629	--	--	13,015,629	13,015,629	--	--	13,015,629
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		1,948	92	138	2,178				
TOTAL FOOTAGE		3,930,336	573,814	793,365	5,297,515	2,018	6,237	5,749	2,432
TOTAL COSTS $		392,405,383	45,230,839	57,444,972	495,081,194	201,440	491,640	416,268	227,310

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

CALIFORNIA - NORTH

Table 12

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	1	1	2				
FOOTAGE	1,250 - 2,499	--	2,200	2,453	4,653	--	2,200	2,453	2,327
COSTS $		--	114,830	121,902	236,732	--	114,830	121,902	118,366
WELLS		--	5	6	11				
FOOTAGE	2,500 - 3,749	--	15,745	18,911	34,656	--	3,149	3,152	3,151
COSTS $		--	1,036,873	994,341	2,031,214	--	207,375	165,724	184,656
WELLS		2	16	17	35				
FOOTAGE	3,750 - 4,999	8,502	67,243	72,985	148,730	4,251	4,203	4,293	4,249
COSTS $		823,356	5,236,685	3,685,472	9,745,513	411,678	327,293	216,792	278,443
WELLS		1	24	35	60				
FOOTAGE	5,000 - 7,499	7,460	156,362	214,348	378,170	7,460	6,515	6,124	6,303
COSTS $		569,447	9,880,703	10,455,859	20,906,009	569,447	411,696	298,739	348,433
WELLS		1	22	22	45				
FOOTAGE	7,500 - 9,999	8,000	188,713	185,458	382,171	8,000	8,578	8,430	8,493
COSTS $		693,840	10,403,414	7,986,726	19,083,980	693,840	472,882	363,033	424,088
WELLS		--	1	1	2				
FOOTAGE	10,000 - 12,499	--	10,896	10,000	20,896	--	10,896	10,000	10,448
COSTS $		--	552,863	483,316	1,036,179	--	552,863	483,316	518,090
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		4	69	82	155				
TOTAL FOOTAGE		23,962	441,159	504,155	969,276	5,991	6,394	6,148	6,253
TOTAL COSTS $		2,086,643	27,225,368	23,727,616	53,039,627	521,661	394,571	289,361	342,191

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

CALIFORNIA -CENTRAL COASTAL

Table 13

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		26	--	--	26				
FOOTAGE	1,250 - 2,499	51,215	--	--	51,215	1,970	--	--	1,970
COSTS $		4,735,765	--	--	4,735,765	182,145	--	--	182,145
WELLS		8	--	--	8				
FOOTAGE	2,500 - 3,749	23,101	--	--	23,101	2,888	--	--	2,888
COSTS $		2,443,439	--	--	2,443,439	305,430	--	--	305,430
WELLS		2	--	2	4				
FOOTAGE	3,750 - 4,999	9,430	--	9,312	18,742	4,715	--	4,656	4,686
COSTS $		813,094	--	742,166	1,555,260	406,547	--	371,083	388,815
WELLS		11	--	1	12				
FOOTAGE	5,000 - 7,499	68,219	--	6,620	74,839	6,202	--	6,620	6,237
COSTS $		9,146,462	--	804,522	9,950,984	831,497	--	804,522	829,249
WELLS		9	--	4	13				
FOOTAGE	7,500 - 9,999	76,056	--	34,958	111,014	8,451	--	8,740	8,540
COSTS $		13,985,554	--	7,124,113	21,109,667	1,553,951	--	1,781,028	1,623,821
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		3	--	--	3				
FOOTAGE	12,500 - 14,999	42,794	--	--	42,794	14,265	--	--	14,265
COSTS $		8,084,987	--	--	8,084,987	2,694,996	--	--	2,694,996
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		59	--	7	66				
TOTAL FOOTAGE		270,815	--	50,890	321,705	4,590	--	7,270	4,874
TOTAL COSTS $		39,209,301	--	8,670,801	47,880,102	664,564	--	1,238,686	725,456

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

CALIFORNIA - EAST CENTRAL

Table 14

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		645	--	8	653				
FOOTAGE	0 - 1,249	616,961	--	6,197	623,158	957	--	775	954
COSTS $		52,535,569	--	349,063	52,884,632	81,450	--	43,633	80,987
WELLS		829	1	14	844				
FOOTAGE	1,250 - 2,499	1,326,177	1,604	23,702	1,351,483	1,600	1,604	1,693	1,601
COSTS $		90,390,017	179,779	1,507,597	92,077,393	109,035	179,779	107,686	109,096
WELLS		240	2	2	244				
FOOTAGE	2,500 - 3,749	739,171	6,470	6,358	751,999	3,080	3,235	3,179	3,082
COSTS $		49,609,294	388,993	301,947	50,300,234	206,705	194,497	150,974	206,149
WELLS		66	2	1	69				
FOOTAGE	3,750 - 4,999	306,876	9,350	4,600	320,826	4,650	4,675	4,600	4,650
COSTS $		39,838,074	667,958	264,255	40,770,287	603,607	333,979	264,255	590,874
WELLS		47	11	8	66				
FOOTAGE	5,000 - 7,499	269,205	65,289	46,805	381,299	5,728	5,935	5,851	5,777
COSTS $		36,479,051	4,779,899	3,862,749	45,121,699	776,150	434,536	482,844	683,662
WELLS		5	3	2	10				
FOOTAGE	7,500 - 9,999	43,197	25,145	15,057	83,399	8,639	8,382	7,529	8,340
COSTS $		4,916,177	2,037,613	1,022,455	7,976,245	983,235	679,204	511,228	797,625
WELLS		5	--	3	8				
FOOTAGE	10,000 - 12,499	57,758	--	30,915	88,673	11,552	--	10,305	11,084
COSTS $		8,343,264	--	3,280,636	11,623,900	1,668,653	--	1,093,545	1,452,988
WELLS		7	--	4	11				
FOOTAGE	12,500 - 14,999	91,832	--	55,965	147,797	13,119	--	13,991	13,436
COSTS $		16,486,982	--	8,650,474	25,137,456	2,355,283	--	2,162,619	2,285,223
WELLS		--	--	1	1				
FOOTAGE	15,000 - 17,499	--	--	15,000	15,000	--	--	15,000	15,000
COSTS $		--	--	3,408,368	3,408,368	--	--	3,408,368	3,408,368
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		1,844	19	43	1,906				
TOTAL FOOTAGE		3,451,177	107,858	204,599	3,763,634	1,872	5,677	4,758	1,975
TOTAL COSTS $		298,598,428	8,054,242	22,647,544	329,300,214	161,930	423,907	526,687	172,770

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

CALIFORNIA - SOUTH

Table 15

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		2	--	--	2				
FOOTAGE	0 - 1,249	1,930	--	--	1,930	965	--	--	965
COSTS $		96,886	--	--	96,886	48,443	--	--	48,443
WELLS		7	--	--	7				
FOOTAGE	1,250 - 2,499	12,711	--	--	12,711	1,816	--	--	1,816
COSTS $		914,300	--	--	914,300	130,614	--	--	130,614
WELLS		16	--	3	19				
FOOTAGE	2,500 - 3,749	49,062	--	10,298	59,360	3,066	--	3,433	3,124
COSTS $		2,935,741	--	541,135	3,476,876	183,484	--	180,378	182,993
WELLS		1	--	1	2				
FOOTAGE	3,750 - 4,999	3,820	--	4,123	7,943	3,820	--	4,123	3,972
COSTS $		223,209	--	264,161	487,370	223,209	--	264,161	243,685
WELLS		1	--	--	1				
FOOTAGE	5,000 - 7,499	5,300	--	--	5,300	5,300	--	--	5,300
COSTS $		331,610	--	--	331,610	331,610	--	--	331,610
WELLS		1	--	1	2				
FOOTAGE	7,500 - 9,999	9,550	--	9,300	18,850	9,550	--	9,300	9,425
COSTS $		783,374	--	566,583	1,349,957	783,374	--	566,583	674,979
WELLS		--	--	1	1				
FOOTAGE	10,000 - 12,499	--	--	10,000	10,000	--	--	10,000	10,000
COSTS $		--	--	1,027,132	1,027,132	--	--	1,027,132	1,027,132
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		28	--	6	34				
TOTAL FOOTAGE		82,373	--	33,721	116,094	2,942	--	5,620	3,415
TOTAL COSTS $		5,285,120	--	2,399,011	7,684,131	188,754	--	399,835	226,004

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

CALIFORNIA - OFFSHORE

Table 16

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	1,250 - 2,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		3	--	--	3				
FOOTAGE	2,500 - 3,749	9,761	--	--	9,761	3,254	--	--	3,254
COSTS $		2,054,750	--	--	2,054,750	684,917	--	--	684,917
WELLS		2	2	--	4				
FOOTAGE	3,750 - 4,999	8,913	8,240	--	17,153	4,457	4,120	--	4,288
COSTS $		1,562,307	1,909,213	--	3,471,520	781,154	954,607	--	867,880
WELLS		1	1	--	2				
FOOTAGE	5,000 - 7,499	7,473	5,422	--	12,895	7,473	5,422	--	6,448
COSTS $		1,020,553	3,038,034	--	4,058,587	1,020,553	3,038,034	--	2,029,294
WELLS		5	--	--	5				
FOOTAGE	7,500 - 9,999	41,308	--	--	41,308	8,262	--	--	8,262
COSTS $		14,542,574	--	--	14,542,574	2,908,515	--	--	2,908,515
WELLS		--	1	--	1				
FOOTAGE	10,000 - 12,499	--	11,135	--	11,135	--	11,135	--	11,135
COSTS $		--	5,003,982	--	5,003,982	--	5,003,982	--	5,003,982
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		1	--	--	1				
FOOTAGE	15,000 - 17,499	16,654	--	--	16,654	16,654	--	--	16,654
COSTS $		15,030,078	--	--	15,030,078	15,030,078	--	--	15,030,078
WELLS		1	--	--	1				
FOOTAGE	17,500 - 19,999	17,900	--	--	17,900	17,900	--	--	17,900
COSTS $		13,015,629	--	--	13,015,629	13,015,629	--	--	13,015,629
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		13	4	--	17				
TOTAL FOOTAGE		102,009	24,797	--	126,806	7,847	6,199	--	7,459
TOTAL COSTS $		47,225,891	9,951,229	--	57,177,120	3,632,761	2,487,807	--	3,363,360

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

COLORADO

Table 17

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	1	13	14				
FOOTAGE	0 - 1,249	--	1,136	9,019	10,155	--	1,136	694	725
COSTS $		--	137,001	1,130,587	1,267,588	--	137,001	86,968	90,542
WELLS		2	48	22	72				
FOOTAGE	1,250 - 2,499	4,317	100,889	44,199	149,405	2,159	2,102	2,009	2,075
COSTS $		222,729	8,513,474	3,222,598	11,958,801	111,365	177,364	146,482	166,094
WELLS		4	180	15	199				
FOOTAGE	2,500 - 3,749	12,652	556,180	46,589	615,421	3,163	3,090	3,106	3,093
COSTS $		598,510	49,430,699	2,789,501	52,818,710	149,628	274,615	185,967	265,421
WELLS		10	51	24	85				
FOOTAGE	3,750 - 4,999	45,734	209,064	109,959	364,757	4,573	4,099	4,582	4,291
COSTS $		1,850,505	14,286,375	3,349,238	19,486,118	185,051	280,125	139,552	229,248
WELLS		99	220	204	523				
FOOTAGE	5,000 - 7,499	611,003	1,522,156	1,176,472	3,309,631	6,172	6,919	5,767	6,328
COSTS $		24,172,317	70,475,049	27,460,260	122,107,626	244,165	320,341	134,609	233,475
WELLS		21	182	14	217				
FOOTAGE	7,500 - 9,999	169,582	1,439,188	111,781	1,720,551	8,075	7,908	7,984	7,929
COSTS $		4,536,637	65,582,803	2,940,129	73,059,569	216,030	360,345	210,009	336,680
WELLS		--	--	2	2				
FOOTAGE	10,000 - 12,499	--	--	22,117	22,117	--	--	11,059	11,059
COSTS $		--	--	406,928	406,928	--	--	203,464	203,464
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		136	682	294	1,112				
TOTAL FOOTAGE		843,288	3,828,613	1,520,136	6,192,037	6,201	5,614	5,171	5,568
TOTAL COSTS $		31,380,698	208,425,401	41,299,241	281,105,340	230,740	305,609	140,474	252,793

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

FLORIDA

Table 18

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS	0 - 1,249	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	1	1				
FOOTAGE	1,250 - 2,499	--	--	1,643	1,643	--	--	1,643	1,643
COSTS $		--	--	207,871	207,871	--	--	207,871	207,871
WELLS		--	--	--	--				
FOOTAGE	2,500 - 3,749	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	3,750 - 4,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	5,000 - 7,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	1	1				
FOOTAGE	7,500 - 9,999	--	--	8,185	8,185	--	--	8,185	8,185
COSTS $		--	--	291,140	291,140	--	--	291,140	291,140
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	1	1				
FOOTAGE	12,500 - 14,999	--	--	14,000	14,000	--	--	14,000	14,000
COSTS $		--	--	631,215	631,215	--	--	631,215	631,215
WELLS		--	--	7	7				
FOOTAGE	15,000 - 17,499	--	--	112,299	112,299	--	--	16,043	16,043
COSTS $		--	--	5,331,604	5,331,604	--	--	761,658	761,658
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		--	--	10	10				
TOTAL FOOTAGE		--	--	136,127	136,127	--	--	13,613	13,613
TOTAL COSTS $		--	--	6,461,830	6,461,830	--	--	646,183	646,183

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

ILLINOIS

Table 19

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		79	21	71	171				
FOOTAGE	0 - 1,249	58,543	9,751	48,704	116,998	741	464	686	684
COSTS $		2,510,406	332,755	646,464	3,489,625	31,777	15,845	9,105	20,407
WELLS		99	--	65	164				
FOOTAGE	1,250 - 2,499	181,240	--	129,540	310,780	1,831	--	1,993	1,895
COSTS $		7,821,592	--	2,109,584	9,931,176	79,006	--	32,455	60,556
WELLS		159	1	119	279				
FOOTAGE	2,500 - 3,749	506,069	3,162	364,464	873,695	3,183	3,162	3,063	3,132
COSTS $		24,582,344	117,279	6,374,705	31,074,328	154,606	117,279	53,569	111,378
WELLS		36	1	27	64				
FOOTAGE	3,750 - 4,999	140,713	4,358	109,691	254,762	3,909	4,358	4,063	3,981
COSTS $		7,145,243	236,857	2,108,161	9,490,261	198,479	236,857	78,080	148,285
WELLS		7	--	2	9				
FOOTAGE	5,000 - 7,499	37,585	--	12,016	49,601	5,369	--	6,008	5,511
COSTS $		1,554,556	--	382,808	1,937,364	222,079	--	191,404	215,263
WELLS		--	--	1	1				
FOOTAGE	7,500 - 9,999	--	--	9,222	9,222	--	--	9,222	9,222
COSTS $		--	--	264,118	264,118	--	--	264,118	264,118
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		380	23	285	688				
TOTAL FOOTAGE		924,150	17,271	673,637	1,615,058	2,432	751	2,364	2,347
TOTAL COSTS $		43,614,141	686,891	11,885,840	56,186,872	114,774	29,865	41,705	81,667

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

INDIANA

Table 20

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		15	10	39	64				
FOOTAGE	0 - 1,249	13,788	6,875	28,599	49,262	919	688	733	770
COSTS $		271,478	124,366	435,792	831,636	18,099	12,437	11,174	12,994
WELLS		25	2	33	60				
FOOTAGE	1,250 - 2,499	41,661	4,015	61,975	107,651	1,666	2,008	1,878	1,794
COSTS $		865,951	137,340	884,781	1,888,072	34,638	68,670	26,812	31,468
WELLS		1	1	6	8				
FOOTAGE	2,500 - 3,749	2,510	3,642	17,812	23,964	2,510	3,642	2,969	2,996
COSTS $		52,735	134,863	309,636	497,234	52,735	134,863	51,606	62,154
WELLS		--	--	1	1				
FOOTAGE	3,750 - 4,999	--	--	3,800	3,800	--	--	3,800	3,800
COSTS $		--	--	71,174	71,174	--	--	71,174	71,174
WELLS		--	1	--	1				
FOOTAGE	5,000 - 7,499	--	7,147	--	7,147	--	7,147	--	7,147
COSTS $		--	519,372	--	519,372	--	519,372	--	519,372
WELLS		--	--	--	--				
FOOTAGE	7,500 - 9,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		41	14	79	134				
TOTAL FOOTAGE		57,959	21,679	112,186	191,824	1,414	1,549	1,420	1,432
TOTAL COSTS $		1,190,164	915,941	1,701,383	3,807,488	29,028	65,424	21,536	28,414

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

KANSAS

Table 21

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		318	77	87	482				
FOOTAGE	0 - 1,249	259,444	61,562	67,673	388,679	816	800	778	806
COSTS $		5,059,801	1,677,142	1,072,673	7,809,616	15,911	21,781	12,330	16,203
WELLS		93	40	86	219				
FOOTAGE	1,250 - 2,499	161,075	72,114	158,050	391,239	1,732	1,803	1,838	1,786
COSTS $		3,509,974	2,826,798	1,964,501	8,301,273	37,742	70,670	22,843	37,905
WELLS		200	328	249	777				
FOOTAGE	2,500 - 3,749	664,589	930,388	836,401	2,431,378	3,323	2,837	3,359	3,129
COSTS $		16,089,179	53,382,723	10,685,301	80,157,203	80,446	162,752	42,913	103,162
WELLS		283	26	458	767				
FOOTAGE	3,750 - 4,999	1,214,742	114,399	1,994,074	3,323,215	4,292	4,400	4,354	4,333
COSTS $		31,647,403	5,567,067	27,614,139	64,828,609	111,828	214,118	60,293	84,522
WELLS		90	90	171	351				
FOOTAGE	5,000 - 7,499	504,900	521,403	956,037	1,982,340	5,610	5,793	5,591	5,648
COSTS $		17,989,843	20,847,917	20,714,307	59,552,067	199,887	231,644	121,136	169,664
WELLS		--	--	--	--				
FOOTAGE	7,500 - 9,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		984	561	1,051	2,596				
TOTAL FOOTAGE		2,804,750	1,699,866	4,012,235	8,516,851	2,850	3,030	3,818	3,281
TOTAL COSTS $		74,296,200	84,301,647	62,050,921	220,648,768	75,504	150,270	59,040	84,996

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

KENTUCKY

Table 22

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		50	11	53	114				
FOOTAGE	0 - 1,249	36,952	10,711	38,659	86,322	739	974	729	757
COSTS $		980,978	193,421	646,076	1,820,475	19,620	17,584	12,190	15,969
WELLS		39	69	63	171				
FOOTAGE	1,250 - 2,499	68,807	129,213	115,237	313,257	1,764	1,873	1,829	1,832
COSTS $		2,428,230	3,833,698	2,045,326	8,307,254	62,262	55,561	32,465	48,580
WELLS		30	113	40	183				
FOOTAGE	2,500 - 3,749	88,393	364,407	118,297	571,097	2,946	3,225	2,957	3,121
COSTS $		3,986,957	14,499,077	2,651,418	21,137,452	132,899	128,310	66,285	115,505
WELLS		1	98	3	102				
FOOTAGE	3,750 - 4,999	4,240	427,234	11,767	443,241	4,240	4,360	3,922	4,346
COSTS $		341,238	18,035,386	352,756	18,729,380	341,238	184,035	117,585	183,621
WELLS		--	12	3	15				
FOOTAGE	5,000 - 7,499	--	61,593	16,782	78,375	--	5,133	5,594	5,225
COSTS $		--	2,259,289	840,370	3,099,659	--	188,274	280,123	206,644
WELLS		--	--	--	--				
FOOTAGE	7,500 - 9,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		120	303	162	585				
TOTAL FOOTAGE		198,392	993,158	300,742	1,492,292	1,653	3,278	1,856	2,551
TOTAL COSTS $		7,737,403	38,820,871	6,535,946	53,094,220	64,478	128,122	40,345	90,759

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

LOUISIANA - TOTAL

Table 23

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		103	25	20	148				
FOOTAGE	0 - 1,249	97,988	22,245	17,231	137,464	951	890	862	929
COSTS $		3,059,348	1,383,424	1,415,219	5,857,991	29,702	55,337	70,761	39,581
WELLS		55	70	53	178				
FOOTAGE	1,250 - 2,499	107,874	158,126	104,236	370,236	1,961	2,259	1,967	2,080
COSTS $		6,053,620	3,847,710	7,728,149	17,629,679	110,069	54,967	145,814	99,043
WELLS		48	17	85	150				
FOOTAGE	2,500 - 3,749	145,824	51,690	253,444	450,958	3,038	3,041	2,982	3,006
COSTS $		6,578,607	2,729,056	6,964,004	16,271,667	137,054	160,533	81,929	108,478
WELLS		54	23	76	153				
FOOTAGE	3,750 - 4,999	231,421	96,828	330,912	659,161	4,286	4,210	4,354	4,308
COSTS $		10,679,623	17,631,604	19,373,293	47,684,520	197,771	766,592	254,912	311,664
WELLS		50	54	121	225				
FOOTAGE	5,000 - 7,499	308,041	346,914	753,153	1,408,108	6,161	6,424	6,224	6,258
COSTS $		38,830,770	86,696,927	48,602,160	174,129,857	776,615	1,605,499	401,671	773,911
WELLS		54	103	135	292				
FOOTAGE	7,500 - 9,999	467,748	916,386	1,164,808	2,548,942	8,662	8,897	8,628	8,729
COSTS $		74,871,473	144,849,951	110,038,817	329,760,241	1,386,509	1,406,310	815,102	1,129,316
WELLS		73	116	127	316				
FOOTAGE	10,000 - 12,499	818,040	1,293,048	1,413,706	3,524,794	11,206	11,147	11,132	11,154
COSTS $		83,998,916	226,205,671	151,097,486	461,302,073	1,150,670	1,950,049	1,189,744	1,459,817
WELLS		25	60	75	160				
FOOTAGE	12,500 - 14,999	333,882	820,169	1,020,254	2,174,305	13,355	13,669	13,603	13,589
COSTS $		53,977,039	206,743,096	168,309,383	429,029,518	2,159,082	3,445,718	2,244,125	2,681,435
WELLS		7	41	47	95				
FOOTAGE	15,000 - 17,499	109,792	652,545	746,859	1,509,196	15,685	15,916	15,891	15,886
COSTS $		35,589,456	221,720,209	159,186,807	416,496,472	5,084,208	5,407,810	3,386,953	4,384,174
WELLS		1	2	16	19				
FOOTAGE	17,500 - 19,999	17,947	36,296	296,155	350,398	17,947	18,148	18,510	18,442
COSTS $		2,988,086	15,900,779	96,022,521	114,911,386	2,988,086	7,950,390	6,001,408	6,047,968
WELLS		—	3	1	4				
FOOTAGE	20,000 & OVER	—	60,737	21,241	81,978	—	20,246	21,241	20,495
COSTS $		—	31,931,399	9,350,785	41,282,184	—	10,643,800	9,350,785	10,320,546
TOTAL WELLS		470	514	756	1,740				
TOTAL FOOTAGE		2,638,557	4,454,984	6,121,999	13,215,540	5,614	8,667	8,098	7,595
TOTAL COSTS $		316,627,138	959,639,826	778,088,624	2,054,355,588	673,675	1,867,004	1,029,218	1,180,664

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

LOUISIANA - NORTH

Table 24

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		96	22	18	136				
FOOTAGE	0 - 1,249	89,785	18,823	15,425	124,033	935	856	857	912
COSTS $		2,640,342	528,424	264,762	3,433,528	27,504	24,019	14,709	25,247
WELLS		29	69	43	141				
FOOTAGE	1,250 - 2,499	57,329	156,326	85,085	298,740	1,977	2,266	1,979	2,119
COSTS $		2,203,974	3,333,158	1,349,021	6,886,153	75,999	48,307	31,373	48,838
WELLS		42	16	79	137				
FOOTAGE	2,500 - 3,749	127,225	48,500	234,689	410,414	3,029	3,031	2,971	2,996
COSTS $		5,448,367	1,455,357	3,488,940	10,392,664	129,723	90,960	44,164	75,859
WELLS		47	10	63	120				
FOOTAGE	3,750 - 4,999	200,176	41,830	272,493	514,499	4,259	4,183	4,325	4,287
COSTS $		7,462,845	1,844,619	4,171,792	13,479,256	158,784	184,462	66,219	112,327
WELLS		18	20	79	117				
FOOTAGE	5,000 - 7,499	110,304	129,905	489,969	730,178	6,128	6,495	6,202	6,241
COSTS $		4,341,993	9,386,185	8,869,154	22,597,332	241,222	469,309	112,268	193,140
WELLS		5	63	36	104				
FOOTAGE	7,500 - 9,999	42,264	573,315	309,241	924,820	8,453	9,100	8,590	8,893
COSTS $		2,097,427	52,751,239	9,407,362	64,256,028	419,485	837,321	261,316	617,846
WELLS		21	33	16	70				
FOOTAGE	10,000 - 12,499	241,432	362,043	175,656	779,131	11,497	10,971	10,979	11,130
COSTS $		22,187,523	42,216,833	9,320,324	73,724,680	1,056,549	1,279,298	582,520	1,053,210
WELLS		1	1	1	3				
FOOTAGE	12,500 - 14,999	12,720	12,640	12,510	37,870	12,720	12,640	12,510	12,623
COSTS $		998,198	3,220,041	851,375	5,069,614	998,198	3,220,041	851,375	1,689,871
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		259	234	335	828				
TOTAL FOOTAGE		881,235	1,343,382	1,595,068	3,819,685	3,402	5,741	4,761	4,613
TOTAL COSTS $		47,380,669	114,735,856	37,722,730	199,839,255	182,937	490,324	112,605	241,352

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

LOUISIANA - SOUTH

Table 25

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		7	3	1	11				
FOOTAGE	0 - 1,249	8,203	3,422	1,233	12,858	1,172	1,141	1,233	1,169
COSTS $		419,006	855,000	122,110	1,396,116	59,858	285,000	122,110	126,920
WELLS		26	1	7	34				
FOOTAGE	1,250 - 2,499	50,545	1,800	13,113	65,458	1,944	1,800	1,873	1,925
COSTS $		3,849,846	514,552	821,677	5,186,075	148,071	514,552	117,382	152,532
WELLS		6	--	1	7				
FOOTAGE	2,500 - 3,749	18,599	--	2,650	21,249	3,100	--	2,650	3,036
COSTS $		1,130,240	--	135,076	1,265,316	188,373	--	135,076	180,759
WELLS		5	3	5	13				
FOOTAGE	3,750 - 4,999	21,672	12,780	21,685	56,137	4,334	4,260	4,337	4,318
COSTS $		1,546,902	720,814	1,341,601	3,609,317	309,380	240,271	268,320	277,640
WELLS		14	7	17	38				
FOOTAGE	5,000 - 7,499	83,305	45,682	104,736	233,723	5,950	6,526	6,161	6,151
COSTS $		6,668,756	3,394,146	2,623,407	12,686,309	476,340	484,878	154,318	333,850
WELLS		37	13	46	96				
FOOTAGE	7,500 - 9,999	326,728	110,455	404,655	841,838	8,830	8,497	8,797	8,769
COSTS $		24,691,821	9,291,348	24,959,365	58,942,534	667,347	714,719	542,595	613,985
WELLS		44	49	58	151				
FOOTAGE	10,000 - 12,499	487,714	553,506	655,183	1,696,403	11,084	11,296	11,296	11,234
COSTS $		45,995,716	58,478,076	46,357,467	150,831,259	1,045,357	1,193,430	799,267	998,883
WELLS		16	26	38	80				
FOOTAGE	12,500 - 14,999	210,538	359,971	521,434	1,091,943	13,159	13,845	13,722	13,649
COSTS $		24,239,532	61,118,788	55,331,480	140,689,800	1,514,971	2,350,723	1,456,092	1,758,623
WELLS		3	27	31	61				
FOOTAGE	15,000 - 17,499	46,737	431,468	492,865	971,070	15,579	15,980	15,899	15,919
COSTS $		7,501,729	118,394,661	83,584,270	209,480,660	2,500,576	4,384,988	2,696,267	3,434,109
WELLS		1	1	13	15				
FOOTAGE	17,500 - 19,999	17,947	17,550	239,497	274,994	17,947	17,550	18,423	18,333
COSTS $		2,988,086	6,048,885	69,928,658	78,965,629	2,988,086	6,048,885	5,379,128	5,264,376
WELLS		--	3	1	4				
FOOTAGE	20,000 & OVER	--	60,737	21,241	81,978	--	20,246	21,241	20,495
COSTS $		--	31,931,399	9,350,785	41,282,184	--	10,643,800	9,350,785	10,320,546
TOTAL WELLS		159	133	218	510				
TOTAL FOOTAGE		1,271,988	1,597,371	2,478,292	5,347,651	8,000	12,010	11,368	10,486
TOTAL COSTS $		119,031,634	290,747,669	294,555,896	704,335,199	748,627	2,186,073	1,351,174	1,381,049

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

LOUISIANA - OFFSHORE

Table 26

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	1	1				
FOOTAGE	0 - 1,249	--	--	573	573	--	--	573	573
COSTS $		--	--	1,028,347	1,028,347	--	--	1,028,347	1,028,347
WELLS		--	--	3	3				
FOOTAGE	1,250 - 2,499	--	--	6,038	6,038	--	--	2,013	2,013
COSTS $		--	--	5,557,451	5,557,451	--	--	1,852,484	1,852,484
WELLS		--	1	5	6				
FOOTAGE	2,500 - 3,749	--	3,190	16,105	19,295	--	3,190	3,221	3,216
COSTS $		--	1,273,699	3,339,988	4,613,687	--	1,273,699	667,998	768,948
WELLS		2	10	8	20				
FOOTAGE	3,750 - 4,999	9,573	42,218	36,734	88,525	4,787	4,222	4,592	4,426
COSTS $		1,669,876	15,066,171	13,859,900	30,595,947	834,938	1,506,617	1,732,488	1,529,797
WELLS		18	27	25	70				
FOOTAGE	5,000 - 7,499	114,432	171,327	158,448	444,207	6,357	6,345	6,338	6,346
COSTS $		27,820,021	73,916,596	37,109,599	138,846,216	1,545,557	2,737,652	1,484,384	1,983,517
WELLS		12	27	53	92				
FOOTAGE	7,500 - 9,999	98,756	232,616	450,912	782,284	8,230	8,615	8,508	8,503
COSTS $		48,082,225	82,807,364	75,672,090	206,561,679	4,006,852	3,066,940	1,427,775	2,245,236
WELLS		8	34	53	95				
FOOTAGE	10,000 - 12,499	88,894	377,499	582,867	1,049,260	11,112	11,103	10,997	11,045
COSTS $		15,815,677	125,510,762	95,419,695	236,746,134	1,976,960	3,691,493	1,800,372	2,492,065
WELLS		8	33	36	77				
FOOTAGE	12,500 - 14,999	110,624	447,558	486,310	1,044,492	13,828	13,562	13,509	13,565
COSTS $		28,739,309	142,404,267	112,126,528	283,270,104	3,592,414	4,315,281	3,114,626	3,678,833
WELLS		4	14	16	34				
FOOTAGE	15,000 - 17,499	63,055	221,077	253,994	538,126	15,764	15,791	15,875	15,827
COSTS $		28,087,727	103,325,548	75,602,537	207,015,812	7,021,932	7,380,397	4,725,159	6,088,701
WELLS		--	1	3	4				
FOOTAGE	17,500 - 19,999	--	18,746	56,658	75,404	--	18,746	18,886	18,851
COSTS $		--	9,851,894	26,093,863	35,945,757	--	9,851,894	8,697,954	8,986,439
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		52	147	203	402				
TOTAL FOOTAGE		485,334	1,514,231	2,048,639	4,048,204	9,333	10,301	10,092	10,070
TOTAL COSTS $		150,214,835	554,156,301	445,809,998	1,150,181,134	2,888,747	3,769,771	2,196,108	2,861,147

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

Table 27

MICHIGAN

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS	0 - 1,249	—	58	2	60				
FOOTAGE		—	62,389	1,723	64,112	—	1,076	862	1,069
COSTS $		—	4,825,758	55,756	4,881,514	—	83,203	27,878	81,359
WELLS	1,250 - 2,499	—	692	5	697				
FOOTAGE		—	1,155,072	10,126	1,165,198	—	1,669	2,025	1,672
COSTS $		—	58,332,047	787,283	59,119,330	—	84,295	157,457	84,820
WELLS	2,500 - 3,749	2	11	18	31				
FOOTAGE		6,765	29,908	59,217	95,890	3,383	2,719	3,290	3,093
COSTS $		467,789	1,552,168	3,977,216	5,997,173	233,895	141,106	220,956	193,457
WELLS	3,750 - 4,999	22	3	60	85				
FOOTAGE		97,601	12,408	265,622	375,631	4,436	4,136	4,427	4,419
COSTS $		6,217,211	797,793	15,135,567	22,150,571	282,601	265,931	252,259	260,595
WELLS	5,000 - 7,499	5	5	43	53				
FOOTAGE		28,481	29,816	270,342	328,639	5,696	5,963	6,287	6,201
COSTS $		1,601,739	2,293,817	15,003,281	18,898,837	320,348	458,763	348,914	356,582
WELLS	7,500 - 9,999	—	6	8	14				
FOOTAGE		—	51,884	73,184	125,068	—	8,647	9,148	8,933
COSTS $		—	5,833,786	8,407,879	14,241,665	—	972,298	1,050,985	1,017,262
WELLS	10,000 - 12,499	3	14	16	33				
FOOTAGE		34,545	156,100	179,002	369,647	11,515	11,150	11,188	11,201
COSTS $		5,514,868	28,991,492	24,596,244	59,102,604	1,838,289	2,070,821	1,537,265	1,790,988
WELLS	12,500 - 14,999	—	--	1	1				
FOOTAGE		—	--	12,683	12,683	—	--	12,683	12,683
COSTS $		—	--	2,519,699	2,519,699	—	--	2,519,699	2,519,699
WELLS	15,000 - 17,499	—	--	--	--				
FOOTAGE		—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
WELLS	17,500 - 19,999	—	--	--	--				
FOOTAGE		—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
WELLS	20,000 & OVER	—	--	--	--				
FOOTAGE		—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
TOTAL WELLS		32	789	153	974				
TOTAL FOOTAGE		167,392	1,497,577	871,899	2,536,868	5,231	1,898	5,699	2,605
TOTAL COSTS $		13,801,607	102,626,861	70,482,925	186,911,393	431,300	130,072	460,673	191,901

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

MISSISSIPPI

Table 28

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS	0 - 1,249	—	--	--	--				
FOOTAGE		—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
WELLS	1,250 - 499	—	1	7	8				
FOOTAGE		—	2,431	12,862	15,293	—	2,431	1,837	1,912
COSTS $		—	88,820	547,026	635,846	—	88,820	78,147	79,481
WELLS	2,500 - 3,749	5	2	15	22				
FOOTAGE		15,892	5,566	44,931	66,389	3,178	2,783	2,995	3,018
COSTS $		901,710	420,212	1,292,769	2,614,691	180,342	210,106	86,185	118,850
WELLS	3,750 - 4,999	5	26	20	51				
FOOTAGE		23,135	111,084	87,628	221,847	4,627	4,272	4,381	4,350
COSTS $		1,314,533	6,478,409	2,308,823	10,101,765	262,907	249,170	115,441	198,074
WELLS	5,000 - 7,499	10	4	38	52				
FOOTAGE		61,567	26,300	248,865	336,732	6,157	6,575	6,549	6,476
COSTS $		5,903,475	1,374,751	5,630,848	12,909,074	590,348	343,688	148,180	248,251
WELLS	7,500 - 9,999	4	12	20	36				
FOOTAGE		35,845	93,423	170,275	299,543	8,961	7,785	8,514	8,321
COSTS $		2,283,423	4,591,066	4,220,345	11,094,834	570,856	382,589	211,017	308,190
WELLS	10,000 - 12,499	21	3	17	41				
FOOTAGE		244,559	36,589	191,250	472,398	11,646	12,196	11,250	11,522
COSTS $		21,707,130	2,883,474	6,700,865	31,291,469	1,033,673	961,158	394,169	763,207
WELLS	12,500 - 14,999	14	3	17	34				
FOOTAGE		191,163	41,969	229,034	462,166	13,655	13,990	13,473	13,593
COSTS $		19,127,488	5,652,758	13,351,602	38,131,848	1,366,249	1,884,253	785,388	1,121,525
WELLS	15,000 - 17,499	13	2	8	23				
FOOTAGE		205,481	32,610	127,871	365,962	15,806	16,305	15,984	15,911
COSTS $		21,334,820	7,391,186	11,679,729	40,405,735	1,641,140	3,695,593	1,459,966	1,756,771
WELLS	17,500 - 19,999	2	2	3	7				
FOOTAGE		35,436	38,032	55,800	129,268	17,718	19,016	18,600	18,467
COSTS $		3,899,626	19,348,737	11,058,289	34,306,652	1,949,813	9,674,369	3,686,096	4,900,951
WELLS	20,000 & OVER	—	--	3	3				
FOOTAGE		—	--	61,095	61,095	—	--	20,365	20,365
COSTS $		—	--	15,091,123	15,091,123	—	--	5,030,375	5,030,375
TOTAL WELLS		74	55	148	277				
TOTAL FOOTAGE		813,078	388,004	1,229,611	2,430,693	10,988	7,055	8,308	8,775
TOTAL COSTS $		76,472,205	48,229,413	71,881,419	196,583,037	1,033,408	876,898	485,685	709,686

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

Table 29

MONTANA

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
	WELLS	—	33	5	38				
	FOOTAGE	—	31,361	4,488	35,849	—	950	898	943
0 - 1,249	COSTS $	—	1,380,677	131,865	1,512,542	—	41,839	26,373	39,804
	WELLS	2	148	44	194				
	FOOTAGE	3,276	227,294	76,084	306,654	1,638	1,536	1,729	1,581
1,250 - 2,499	COSTS $	194,061	11,925,438	1,971,724	14,091,223	97,031	80,577	44,812	72,635
	WELLS	6	7	15	28				
	FOOTAGE	16,984	18,400	42,321	77,705	2,831	2,629	2,821	2,775
2,500 - 3,749	COSTS $	982,217	759,141	1,104,718	2,846,076	163,703	108,449	73,648	101,646
	WELLS	2	1	15	18				
	FOOTAGE	9,102	4,438	65,226	78,766	4,551	4,438	4,348	4,376
3,750 - 4,999	COSTS $	609,073	119,062	2,308,580	3,036,715	304,537	119,062	153,905	168,706
	WELLS	4	--	8	12				
	FOOTAGE	24,020	--	48,663	72,683	6,005	--	6,083	6,057
5,000 - 7,499	COSTS $	2,113,180	--	1,890,855	4,004,035	528,295	--	236,357	333,670
	WELLS	19	--	5	24				
	FOOTAGE	168,549	--	41,208	209,757	8,871	--	8,242	8,740
7,500 - 9,999	COSTS $	11,964,110	--	1,754,619	13,718,729	629,690	--	350,924	571,614
	WELLS	2	--	5	7				
	FOOTAGE	21,275	--	55,259	76,534	10,638	--	11,052	10,933
10,000 - 12,499	COSTS $	910,182	--	2,342,856	3,253,038	455,091	--	468,571	464,720
	WELLS	3	1	1	5				
	FOOTAGE	38,628	13,500	12,900	65,028	12,876	13,500	12,900	13,006
12,500 - 14,999	COSTS $	3,178,077	1,447,200	515,244	5,140,521	1,059,359	1,447,200	515,244	1,028,104
	WELLS	—	--	--	--				
	FOOTAGE	—	--	--	--	—	--	--	--
15,000 - 17,499	COSTS $	—	--	--	--	—	--	--	--
	WELLS	—	--	--	--				
	FOOTAGE	—	--	--	--	—	--	--	--
17,500 - 19,999	COSTS $	—	--	--	--	—	--	--	--
	WELLS	—	--	--	--				
	FOOTAGE	—	--	--	--	—	--	--	--
20,000 & OVER	COSTS $	—	--	--	--	—	--	--	--
	TOTAL WELLS	38	190	98	326				
	TOTAL FOOTAGE	281,834	294,993	346,149	922,976	7,417	1,553	3,532	2,831
	TOTAL COSTS $	19,950,900	15,631,518	12,020,461	47,602,879	525,024	82,271	122,658	146,021

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

NEBRASKA

Table 30

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		—	—	—	—				
FOOTAGE	0 - 1,249	—	—	—	—	—	—	—	—
COSTS $		—	—	—	—	—	—	—	—
WELLS		—	—	1	1				
FOOTAGE	1,250 - 2,499	—	—	2,438	2,438	—	—	2,438	2,438
COSTS $		—	—	24,302	24,302	—	—	24,302	24,302
WELLS		3	—	5	8				
FOOTAGE	2,500 - 3,749	10,850	—	17,348	28,198	3,617	—	3,470	3,525
COSTS $		285,116	—	175,135	460,251	95,039	—	35,027	57,531
WELLS		17	—	45	62				
FOOTAGE	3,750 - 4,999	72,838	—	204,007	276,845	4,285	—	4,533	4,465
COSTS $		1,773,663	—	2,350,122	4,123,785	104,333	—	52,225	66,513
WELLS		13	—	26	39				
FOOTAGE	5,000 - 7,499	78,853	—	158,916	237,769	6,066	—	6,112	6,097
COSTS $		2,136,571	—	3,283,207	5,419,778	164,352	—	126,277	138,969
WELLS		3	—	3	6				
FOOTAGE	7,500 - 9,999	25,478	—	24,580	50,058	8,493	—	8,193	8,343
COSTS $		1,251,970	—	851,808	2,103,778	417,323	—	283,936	350,630
WELLS		—	—	—	—				
FOOTAGE	10,000 - 12,499	—	—	—	—	—	—	—	—
COSTS $		—	—	—	—	—	—	—	—
WELLS		—	—	—	—				
FOOTAGE	12,500 - 14,999	—	—	—	—	—	—	—	—
COSTS $		—	—	—	—	—	—	—	—
WELLS		—	—	—	—				
FOOTAGE	15,000 - 17,499	—	—	—	—	—	—	—	—
COSTS $		—	—	—	—	—	—	—	—
WELLS		—	—	—	—				
FOOTAGE	17,500 - 19,999	—	—	—	—	—	—	—	—
COSTS $		—	—	—	—	—	—	—	—
WELLS		—	—	—	—				
FOOTAGE	20,000 & OVER	—	—	—	—	—	—	—	—
COSTS $		—	—	—	—	—	—	—	—
TOTAL WELLS		36	—	80	116				
TOTAL FOOTAGE		188,019	—	407,289	595,308	5,223	—	5,091	5,132
TOTAL COSTS $		5,447,320	—	6,684,574	12,131,894	151,314	—	83,557	104,585

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

NEW MEXICO - TOTAL

Table 31

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		3	9	7	19				
FOOTAGE	0 - 1,249	2,158	10,559	1,845	14,562	719	1,173	264	766
COSTS $		99,641	648,934	66,627	815,202	33,214	72,104	9,518	42,905
WELLS		19	136	21	176				
FOOTAGE	1,250 - 2,499	41,361	253,964	41,698	337,023	2,177	1,867	1,986	1,915
COSTS $		2,458,134	21,572,759	1,978,273	26,009,166	129,375	158,623	94,203	147,779
WELLS		27	451	13	491				
FOOTAGE	2,500 - 3,749	87,305	1,470,941	37,906	1,596,152	3,234	3,262	2,916	3,251
COSTS $		5,716,205	127,940,738	1,719,212	135,376,155	211,711	283,682	132,247	275,715
WELLS		53	48	15	116				
FOOTAGE	3,750 - 4,999	233,258	196,955	64,474	494,687	4,401	4,103	4,298	4,265
COSTS $		13,206,571	14,532,657	3,213,677	30,952,905	249,181	302,764	214,245	266,835
WELLS		195	20	23	238				
FOOTAGE	5,000 - 7,499	1,147,876	122,522	144,651	1,415,049	5,887	6,126	6,289	5,946
COSTS $		68,521,164	9,191,467	6,776,033	84,488,664	351,391	459,573	294,610	354,994
WELLS		97	14	20	131				
FOOTAGE	7,500 - 9,999	830,966	130,464	176,113	1,137,543	8,567	9,319	8,806	8,684
COSTS $		54,833,951	7,867,890	8,099,265	70,801,106	565,298	561,992	404,963	540,466
WELLS		28	15	15	58				
FOOTAGE	10,000 - 12,499	318,906	169,595	171,620	660,121	11,390	11,306	11,441	11,381
COSTS $		22,917,563	12,176,163	7,033,935	42,127,661	818,484	811,744	468,929	726,339
WELLS		7	25	9	41				
FOOTAGE	12,500 - 14,999	92,513	343,536	122,587	558,636	13,216	13,741	13,621	13,625
COSTS $		8,056,818	28,908,331	6,193,644	43,158,793	1,150,974	1,156,333	688,183	1,052,654
WELLS		1	5	2	8				
FOOTAGE	15,000 - 17,499	15,120	78,340	30,857	124,317	15,120	15,668	15,429	15,540
COSTS $		1,867,298	8,495,182	2,238,680	12,601,160	1,867,298	1,699,036	1,119,340	1,575,145
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		430	723	125	1,278				
TOTAL FOOTAGE		2,769,463	2,776,876	791,751	6,338,090	6,441	3,841	6,334	4,959
TOTAL COSTS $		177,677,345	231,334,121	37,319,346	446,330,812	413,203	319,964	298,555	349,242

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

NEW MEXICO - WEST

Table 32

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		3	8	3	14				
FOOTAGE	0 - 1,249	2,158	9,407	1,149	12,714	719	1,176	383	908
COSTS $		99,641	544,645	28,204	672,490	33,214	68,081	9,401	48,035
WELLS		—	131	1	132				
FOOTAGE	1,250 - 2,499	—	243,367	2,173	245,540	—	1,858	2,173	1,860
COSTS $		—	20,389,857	83,469	20,473,326	—	155,648	83,469	155,101
WELLS		—	438	3	441				
FOOTAGE	2,500 - 3,749	—	1,425,955	8,999	1,434,954	—	3,256	3,000	3,254
COSTS $		—	125,048,599	463,221	125,511,820	—	285,499	154,407	284,607
WELLS		6	28	1	35				
FOOTAGE	3,750 - 4,999	28,734	115,978	4,968	149,680	4,789	4,142	4,968	4,277
COSTS $		1,324,948	9,683,637	436,284	11,444,869	220,825	345,844	436,284	326,996
WELLS		58	11	3	72				
FOOTAGE	5,000 - 7,499	329,901	65,367	18,410	413,678	5,688	5,942	6,137	5,746
COSTS $		17,024,973	5,697,600	1,543,918	24,266,491	293,534	517,964	514,639	337,035
WELLS		5	—	—	5				
FOOTAGE	7,500 - 9,999	39,879	—	—	39,879	7,976	—	—	7,976
COSTS $		2,415,719	—	—	2,415,719	483,144	—	—	483,144
WELLS		—	—	—	—				
FOOTAGE	10,000 - 12,499	—	—	—	—	—	—	—	—
COSTS $		—	—	—	—	—	—	—	—
WELLS		—	—	—	—				
FOOTAGE	12,500 - 14,999	—	—	—	—	—	—	—	—
COSTS $		—	—	—	—	—	—	—	—
WELLS		—	—	—	—				
FOOTAGE	15,000 - 17,499	—	—	—	—	—	—	—	—
COSTS $		—	—	—	—	—	—	—	—
WELLS		—	—	—	—				
FOOTAGE	17,500 - 19,999	—	—	—	—	—	—	—	—
COSTS $		—	—	—	—	—	—	—	—
WELLS		—	—	—	—				
FOOTAGE	20,000 & OVER	—	—	—	—	—	—	—	—
COSTS $		—	—	—	—	—	—	—	—
TOTAL WELLS		72	616	11	699				
TOTAL FOOTAGE		400,672	1,860,074	35,699	2,296,445	5,565	3,020	3,245	3,285
TOTAL COSTS $		20,865,281	161,364,338	2,555,096	184,784,715	289,796	261,955	232,281	264,356

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

NEW MEXICO - EAST

Table 33

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		—	1	4	5				
FOOTAGE	0 - 1,249	—	1,152	696	1,848	—	1,152	174	370
COSTS $		—	104,289	38,423	142,712	—	104,289	9,606	28,542
WELLS		19	5	20	44				
FOOTAGE	1,250 - 2,499	41,361	10,597	39,525	91,483	2,177	2,119	1,976	2,079
COSTS $		2,458,134	1,182,902	1,894,804	5,535,840	129,375	236,580	94,740	125,815
WELLS		27	13	10	50				
FOOTAGE	2,500 - 3,749	87,305	44,986	28,907	161,198	3,234	3,460	2,891	3,224
COSTS $		5,716,205	2,892,139	1,255,991	9,864,335	211,711	222,472	125,599	197,287
WELLS		47	20	14	81				
FOOTAGE	3,750 - 4,999	204,524	80,977	59,506	345,007	4,352	4,049	4,250	4,259
COSTS $		11,881,623	4,849,020	2,777,393	19,508,036	252,800	242,451	198,385	240,840
WELLS		137	9	20	166				
FOOTAGE	5,000 - 7,499	817,975	57,155	126,241	1,001,371	5,971	6,351	6,312	6,032
COSTS $		51,496,191	3,493,867	5,232,115	60,222,173	375,885	388,207	261,606	362,784
WELLS		92	14	20	126				
FOOTAGE	7,500 - 9,999	791,087	130,464	176,113	1,097,664	8,599	9,319	8,806	8,712
COSTS $		52,418,232	7,867,890	8,099,265	68,385,387	569,763	561,992	404,963	542,741
WELLS		28	15	15	58				
FOOTAGE	10,000 - 12,499	318,906	169,595	171,620	660,121	11,390	11,306	11,441	11,381
COSTS $		22,917,563	12,176,163	7,033,935	42,127,661	818,484	811,744	468,929	726,339
WELLS		7	25	9	41				
FOOTAGE	12,500 - 14,999	92,513	343,536	122,587	558,636	13,216	13,741	13,621	13,625
COSTS $		8,056,818	28,908,331	6,193,644	43,158,793	1,150,974	1,156,333	688,183	1,052,654
WELLS		1	5	2	8				
FOOTAGE	15,000 - 17,499	15,120	78,340	30,857	124,317	15,120	15,668	15,429	15,540
COSTS $		1,867,298	8,495,182	2,238,680	12,601,160	1,867,298	1,699,036	1,119,340	1,575,145
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		358	107	114	579				
TOTAL FOOTAGE		2,368,791	916,802	756,052	4,041,645	6,617	8,568	6,632	6,980
TOTAL COSTS $		156,812,064	69,969,783	34,764,250	261,546,097	438,023	653,923	304,950	451,720

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

NORTH DAKOTA

Table 34

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	1	1				
FOOTAGE	0 - 1,249	--	--	214	214	--	--	214	214
COSTS $		--	--	56,634	56,634	--	--	56,634	56,634
WELLS		--	--	--	--				
FOOTAGE	1,250 - 2,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		6	--	10	16				
FOOTAGE	2,500 - 3,749	19,639	--	33,739	53,378	3,273	--	3,374	3,336
COSTS $		885,490	--	932,786	1,818,276	147,582	--	93,279	113,642
WELLS		10	--	10	20				
FOOTAGE	3,750 - 4,999	43,311	--	44,628	87,939	4,331	--	4,463	4,397
COSTS $		1,832,970	--	1,030,134	2,863,104	183,297	--	103,013	143,155
WELLS		20	1	24	45				
FOOTAGE	5,000 - 7,499	112,239	5,110	138,487	255,836	5,612	5,110	5,770	5,685
COSTS $		5,022,855	550,193	3,161,047	8,734,095	251,143	550,193	131,710	194,091
WELLS		42	--	22	64				
FOOTAGE	7,500 - 9,999	349,021	--	181,351	530,372	8,310	--	8,243	8,287
COSTS $		19,364,902	--	5,222,629	24,587,531	461,069	--	237,392	384,180
WELLS		16	1	14	31				
FOOTAGE	10,000 - 12,499	183,475	12,175	155,963	351,613	11,467	12,175	11,140	11,342
COSTS $		15,953,258	1,585,243	6,229,946	23,768,447	997,079	1,585,243	444,996	766,724
WELLS		70	3	6	79				
FOOTAGE	12,500 - 14,999	923,206	41,248	79,395	1,043,849	13,189	13,749	13,233	13,213
COSTS $		99,578,471	4,167,045	10,735,659	114,481,175	1,422,550	1,389,015	1,789,277	1,449,129
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		164	5	87	256				
TOTAL FOOTAGE		1,630,891	58,533	633,777	2,323,201	9,944	11,707	7,285	9,075
TOTAL COSTS $		142,637,946	6,302,481	27,368,835	176,309,262	869,744	1,260,496	314,584	688,708

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

Table 35

OKLAHOMA

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
0 - 1,249	WELLS	86	40	48	174				
	FOOTAGE	69,443	37,591	40,488	147,522	807	940	844	848
	COSTS $	2,460,520	1,523,108	1,023,834	5,007,462	28,611	38,078	21,330	28,779
1,250 - 2,499	WELLS	270	98	119	487				
	FOOTAGE	497,053	181,602	224,034	902,689	1,841	1,853	1,883	1,854
	COSTS $	14,508,398	8,705,013	4,484,973	27,698,384	53,735	88,827	37,689	56,876
2,500 - 3,749	WELLS	192	75	104	371				
	FOOTAGE	604,318	234,525	328,874	1,167,717	3,147	3,127	3,162	3,147
	COSTS $	25,686,972	12,606,083	7,252,492	45,545,547	133,786	168,081	69,736	122,764
3,750 - 4,999	WELLS	109	52	131	292				
	FOOTAGE	472,444	224,942	568,540	1,265,926	4,334	4,326	4,340	4,335
	COSTS $	20,877,117	10,899,963	13,176,050	44,953,130	191,533	209,615	100,581	153,949
5,000 - 7,499	WELLS	148	179	242	569				
	FOOTAGE	936,113	1,152,121	1,518,257	3,606,491	6,325	6,436	6,274	6,338
	COSTS $	58,661,672	60,366,923	47,249,244	166,277,839	396,363	337,245	195,245	292,228
7,500 - 9,999	WELLS	136	157	82	375				
	FOOTAGE	1,172,635	1,330,952	697,307	3,200,894	8,622	8,477	8,504	8,536
	COSTS $	82,102,145	81,503,213	30,813,096	194,418,454	603,692	519,129	375,769	518,449
10,000 - 12,499	WELLS	50	107	49	206				
	FOOTAGE	546,119	1,184,637	542,471	2,273,227	10,922	11,071	11,071	11,035
	COSTS $	35,003,360	102,549,845	33,328,866	170,882,071	700,067	958,410	680,181	829,525
12,500 - 14,999	WELLS	5	88	28	122				
	FOOTAGE	80,531	1,199,459	389,783	1,669,773	13,422	13,630	13,921	13,687
	COSTS $	7,656,104	157,533,960	49,066,101	214,256,165	1,276,017	1,790,159	1,752,361	1,756,198
15,000 - 17,499	WELLS	1	15	10	26				
	FOOTAGE	17,100	240,658	162,832	420,590	17,100	16,044	16,283	16,177
	COSTS $	1,740,780	40,950,038	26,873,429	69,564,247	1,740,780	2,730,003	2,687,343	2,675,548
17,500 - 19,999	WELLS	--	15	5	20				
	FOOTAGE	--	271,473	91,982	363,455	--	18,098	18,396	18,173
	COSTS $	--	53,103,573	23,059,050	76,162,623	--	3,540,238	4,611,810	3,808,131
20,000 & OVER	WELLS	--	--	--	--				
	FOOTAGE	--	--	--	--	--	--	--	--
	COSTS $	--	--	--	--	--	--	--	--
TOTAL WELLS		998	826	818	2,642				
TOTAL FOOTAGE		4,395,756	6,057,960	4,564,568	15,018,284	4,405	7,334	5,580	5,684
TOTAL COSTS $		248,697,068	529,741,719	236,327,135	1,014,765,922	249,195	641,334	288,908	384,090

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS - TOTAL

Table 36

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		270	24	210	504				
FOOTAGE	0 - 1,249	205,829	19,346	161,004	386,179	762	806	767	766
COSTS $		5,634,678	371,076	3,231,618	9,237,372	20,869	15,462	15,389	18,328
WELLS		455	42	362	859				
FOOTAGE	1,250 - 2,499	863,924	81,322	679,242	1,624,488	1,899	1,936	1,876	1,891
COSTS $		27,469,704	3,922,086	11,777,779	43,169,569	60,373	93,383	32,535	50,256
WELLS		518	122	306	946				
FOOTAGE	2,500 - 3,749	1,628,913	391,225	961,831	2,981,969	3,145	3,207	3,143	3,152
COSTS $		76,595,160	17,465,544	22,237,472	116,298,176	147,867	143,160	72,671	122,937
WELLS		694	140	351	1,185				
FOOTAGE	3,750 - 4,999	3,161,737	613,538	1,522,808	5,298,083	4,556	4,382	4,338	4,471
COSTS $		125,032,579	26,075,712	35,435,273	186,543,564	180,162	186,255	100,955	157,421
WELLS		887	521	514	1,922				
FOOTAGE	5,000 - 7,499	5,362,165	3,350,872	3,124,513	11,837,550	6,045	6,432	6,079	6,159
COSTS $		261,678,071	172,411,414	94,725,583	528,815,068	295,015	330,924	184,291	275,138
WELLS		1,056	585	423	2,064				
FOOTAGE	7,500 - 9,999	9,243,078	5,193,536	3,638,758	18,075,372	8,753	8,878	8,602	8,757
COSTS $		601,472,760	502,278,253	219,414,577	1,323,165,590	569,577	858,595	518,711	641,069
WELLS		282	297	180	759				
FOOTAGE	10,000 - 12,499	3,055,999	3,247,246	2,000,091	8,303,336	10,837	10,933	11,112	10,940
COSTS $		270,001,831	382,784,166	187,176,444	839,962,441	957,453	1,288,836	1,039,869	1,106,670
WELLS		34	80	81	195				
FOOTAGE	12,500 - 14,999	440,343	1,088,260	1,085,265	2,613,868	12,951	13,603	13,398	13,404
COSTS $		49,444,520	187,579,916	150,786,419	387,810,855	1,454,251	2,344,749	1,861,561	1,988,774
WELLS		1	21	25	47				
FOOTAGE	15,000 - 17,499	16,590	332,680	394,878	744,148	16,590	15,842	15,795	15,833
COSTS $		2,239,517	87,712,930	81,322,124	171,274,571	2,239,517	4,176,806	3,252,885	3,644,140
WELLS		—	1	4	5				
FOOTAGE	17,500 - 19,999	—	19,500	77,844	97,344	—	19,500	19,461	19,469
COSTS $		—	9,966,012	26,491,338	36,457,350	—	9,966,012	6,622,835	7,291,470
WELLS		—	--	1	1				
FOOTAGE	20,000 & OVER	—	--	25,357	25,357	—	--	25,357	25,357
COSTS $		—	--	3,801,810	3,801,810	—	--	3,801,810	3,801,810
TOTAL WELLS		4,197	1,833	2,457	8,487				
TOTAL FOOTAGE		23,978,578	14,337,525	13,671,591	51,987,694	5,713	7,822	5,564	6,126
TOTAL COSTS $		1,419,568,820	1,390,567,109	836,400,437	3,646,536,366	338,234	758,629	340,415	429,661

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

Table 37

TEXAS RRC DIST. 1

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		36	--	14	50				
FOOTAGE	0 - 1,249	22,816	--	10,205	33,021	634	--	729	660
COSTS $		956,407	--	214,573	1,170,980	26,567	--	15,327	23,420
WELLS		47	4	47	98				
FOOTAGE	1,250 - 2,499	101,519	6,285	93,393	201,197	2,160	1,571	1,987	2,053
COSTS $		2,781,428	218,000	1,475,856	4,475,284	59,179	54,500	31,401	45,666
WELLS		15	3	22	40				
FOOTAGE	2,500 - 3,749	45,604	8,670	67,455	121,729	3,040	2,890	3,066	3,043
COSTS $		1,816,303	291,117	1,222,097	3,329,517	121,087	97,039	55,550	83,238
WELLS		20	14	19	53				
FOOTAGE	3,750 - 4,999	86,719	60,405	77,255	224,379	4,336	4,315	4,066	4,234
COSTS $		3,399,061	3,211,312	1,835,348	8,445,721	169,953	229,379	96,597	159,353
WELLS		69	24	35	128				
FOOTAGE	5,000 - 7,499	433,308	140,037	211,912	785,257	6,280	5,835	6,055	6,135
COSTS $		24,175,224	7,790,150	6,275,933	38,241,307	350,366	324,590	179,312	298,760
WELLS		359	7	38	404				
FOOTAGE	7,500 - 9,999	3,212,381	64,438	330,116	3,606,935	8,948	9,205	8,687	8,928
COSTS $		258,904,980	7,383,126	18,274,669	284,562,775	721,184	1,054,732	480,912	704,363
WELLS		150	15	9	174				
FOOTAGE	10,000 - 12,499	1,602,162	163,330	94,583	1,860,075	10,681	10,889	10,509	10,690
COSTS $		146,890,741	18,832,336	6,796,803	172,519,880	979,272	1,255,489	755,200	991,494
WELLS		3	2	3	8				
FOOTAGE	12,500 - 14,999	39,550	26,617	39,644	105,811	13,183	13,309	13,215	13,226
COSTS $		4,400,627	6,124,411	3,765,789	14,290,827	1,466,876	3,062,206	1,255,263	1,786,353
WELLS		--	--	2	2				
FOOTAGE	15,000 - 17,499	--	--	30,249	30,249	--	--	15,125	15,125
COSTS $		--	--	3,080,126	3,080,126	--	--	1,540,063	1,540,063
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		699	69	189	957				
TOTAL FOOTAGE		5,544,059	469,782	954,812	6,968,653	7,931	6,808	5,052	7,282
TOTAL COSTS $		443,324,771	43,850,452	42,941,194	530,116,417	634,227	635,514	227,202	553,936

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS RRC DIST. 2

Table 38

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		4	--	3	7				
FOOTAGE	0 - 1,249	4,328	--	3,064	7,392	1,082	--	1,021	1,056
COSTS $		66,563	--	87,172	153,735	16,641	--	29,057	21,962
WELLS		1	5	15	21				
FOOTAGE	1,250 - 2,499	1,392	10,115	28,787	40,294	1,392	2,023	1,919	1,919
COSTS $		24,685	256,008	578,079	858,772	24,685	51,202	38,539	40,894
WELLS		11	36	36	83				
FOOTAGE	2,500 - 3,749	32,948	115,064	110,377	258,389	2,995	3,196	3,066	3,113
COSTS $		897,728	2,956,325	2,006,184	5,860,237	81,612	82,120	55,727	70,605
WELLS		7	32	42	81				
FOOTAGE	3,750 - 4,999	30,749	136,409	182,245	349,403	4,393	4,263	4,339	4,314
COSTS $		865,421	3,508,849	3,905,864	8,280,134	123,632	109,652	92,997	102,224
WELLS		11	36	48	95				
FOOTAGE	5,000 - 7,499	69,056	223,182	288,632	580,870	6,278	6,200	6,013	6,114
COSTS $		1,954,150	7,430,969	8,375,051	17,760,170	177,650	206,416	174,480	186,949
WELLS		7	27	44	78				
FOOTAGE	7,500 - 9,999	58,226	234,971	380,190	673,387	8,318	8,703	8,641	8,633
COSTS $		2,270,793	15,896,464	17,953,294	36,120,551	324,399	588,758	408,029	463,084
WELLS		1	14	17	32				
FOOTAGE	10,000 - 12,499	10,130	153,425	182,967	346,522	10,130	10,959	10,763	10,829
COSTS $		520,222	17,066,126	12,590,153	30,176,501	520,222	1,219,009	740,597	943,016
WELLS		--	11	8	19				
FOOTAGE	12,500 - 14,999	--	146,780	105,528	252,308	--	13,344	13,191	13,279
COSTS $		--	25,290,149	13,697,902	38,988,051	--	2,299,105	1,712,238	2,052,003
WELLS		--	4	1	5				
FOOTAGE	15,000 - 17,499	--	66,835	15,500	82,335	--	16,709	15,500	16,467
COSTS $		--	27,810,679	2,910,851	30,721,530	--	6,952,670	2,910,851	6,144,306
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		42	165	214	421				
TOTAL FOOTAGE		206,829	1,086,781	1,297,290	2,590,900	4,925	6,587	6,062	6,154
TOTAL COSTS $		6,599,562	100,215,569	62,104,550	168,919,681	157,132	607,367	290,208	401,234

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS RRC DIST. 3

Table 39

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS	0 - 1,249	7	--	19	26				
FOOTAGE		5,706	--	13,718	19,424	815	--	722	747
COSTS $		136,598	--	890,672	1,027,270	19,514	--	46,877	39,510
WELLS	1,250 - 2,499	8	2	13	23				
FOOTAGE		17,424	4,708	26,712	48,844	2,178	2,354	2,055	2,124
COSTS $		492,527	186,680	800,010	1,479,217	61,566	93,340	61,539	64,314
WELLS	2,500 - 3,749	20	9	16	45				
FOOTAGE		65,143	29,256	50,208	144,607	3,257	3,251	3,138	3,213
COSTS $		3,508,893	1,540,582	1,719,188	6,768,663	175,445	171,176	107,449	150,415
WELLS	3,750 - 4,999	13	21	24	58				
FOOTAGE		55,651	94,571	104,955	255,177	4,281	4,503	4,373	4,400
COSTS $		2,774,217	3,964,539	3,183,024	9,921,780	213,401	188,788	132,626	171,065
WELLS	5,000 - 7,499	46	27	50	123				
FOOTAGE		279,777	161,004	305,920	746,701	6,082	5,963	6,118	6,071
COSTS $		17,178,721	7,130,361	10,116,766	34,425,848	373,450	264,087	202,335	279,885
WELLS	7,500 - 9,999	63	37	64	164				
FOOTAGE		559,702	324,159	561,642	1,445,503	8,884	8,761	8,776	8,814
COSTS $		46,825,849	21,499,692	35,460,942	103,786,483	743,267	581,073	554,077	632,844
WELLS	10,000 - 12,499	54	25	36	115				
FOOTAGE		599,440	279,689	398,952	1,278,081	11,101	11,188	11,082	11,114
COSTS $		61,376,644	28,233,291	32,337,916	121,947,851	1,136,605	1,129,332	898,275	1,060,416
WELLS	12,500 - 14,999	11	14	31	56				
FOOTAGE		144,339	190,766	417,403	752,508	13,122	13,626	13,465	13,438
COSTS $		15,611,106	35,970,627	52,334,125	103,915,858	1,419,192	2,569,331	1,688,198	1,855,640
WELLS	15,000 - 17,499	--	5	10	15				
FOOTAGE		--	77,675	157,562	235,237	--	15,535	15,756	15,682
COSTS $		--	20,234,804	25,875,703	46,110,507	--	4,046,961	2,587,570	3,074,034
WELLS	17,500 - 19,999	--	1	1	2				
FOOTAGE		--	19,500	19,912	39,412	--	19,500	19,912	19,706
COSTS $		--	9,966,012	13,353,709	23,319,721	--	9,966,012	13,353,709	11,659,861
WELLS	20,000 & OVER	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		222	141	264	627				
TOTAL FOOTAGE		1,727,182	1,181,328	2,056,984	4,965,494	7,780	8,378	7,792	7,919
TOTAL COSTS $		147,904,555	128,726,588	176,072,055	452,703,198	666,237	912,955	666,940	722,015

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS RRC DIST. 4

Table 40

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		—	1	3	4				
FOOTAGE	0 - 1,249	—	463	2,257	2,720	—	463	752	680
COSTS $		—	10,010	35,908	45,918	—	10,010	11,969	11,480
WELLS		4	5	12	21				
FOOTAGE	1,250 - 2,499	6,956	8,823	19,591	35,370	1,739	1,765	1,633	1,684
COSTS $		262,671	261,404	402,354	926,429	65,668	52,281	33,530	44,116
WELLS		9	7	15	31				
FOOTAGE	2,500 - 3,749	29,070	20,616	47,564	97,250	3,230	2,945	3,171	3,137
COSTS $		1,605,302	582,452	938,616	3,126,370	178,367	83,207	62,574	100,851
WELLS		7	7	14	28				
FOOTAGE	3,750 - 4,999	30,233	31,964	59,062	121,259	4,319	4,566	4,219	4,331
COSTS $		1,009,940	1,631,914	1,602,658	4,244,512	144,277	233,131	114,476	151,590
WELLS		48	73	50	171				
FOOTAGE	5,000 - 7,499	269,329	485,153	295,228	1,049,710	5,611	6,646	5,905	6,139
COSTS $		7,639,200	24,373,452	8,233,792	40,246,444	159,150	333,883	164,676	235,359
WELLS		16	172	77	265				
FOOTAGE	7,500 - 9,999	131,619	1,493,348	656,795	2,281,762	8,226	8,682	8,530	8,610
COSTS $		8,409,466	132,163,561	33,351,997	173,925,024	525,592	768,393	433,143	656,321
WELLS		1	100	30	131				
FOOTAGE	10,000 - 12,499	11,500	1,084,947	332,775	1,429,222	11,500	10,849	11,093	10,910
COSTS $		1,011,425	134,745,907	32,865,281	168,622,613	1,011,425	1,347,459	1,095,509	1,287,196
WELLS		—	23	9	32				
FOOTAGE	12,500 - 14,999	—	321,032	121,763	442,795	—	13,958	13,529	13,837
COSTS $		—	61,536,270	14,866,483	76,402,753	—	2,675,490	1,651,832	2,387,586
WELLS		—	9	7	16				
FOOTAGE	15,000 - 17,499	—	140,555	114,253	254,808	—	15,617	16,322	15,926
COSTS $		—	32,301,647	21,284,264	53,585,911	—	3,589,072	3,040,609	3,349,120
WELLS		—	--	--	--				
FOOTAGE	17,500 - 19,999	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
WELLS		—	--	--	--				
FOOTAGE	20,000 & OVER	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
TOTAL WELLS		85	397	217	699				
TOTAL FOOTAGE		478,707	3,586,901	1,649,288	5,714,896	5,632	9,035	7,600	8,176
TOTAL COSTS $		19,938,004	387,606,617	113,581,353	521,125,974	234,565	976,339	523,416	745,531

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS RRC DIST. 5

Table 41

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		26	--	9	35				
FOOTAGE	0 - 1,249	24,416	--	9,589	34,005	939	--	1,065	972
COSTS $		886,515	--	135,106	1,021,621	34,097	--	15,012	29,189
WELLS		11	--	1	12				
FOOTAGE	1,250 - 2,499	22,500	--	2,458	24,958	2,045	--	2,458	2,080
COSTS $		1,673,605	--	48,127	1,721,732	152,146	--	48,127	143,478
WELLS		30	--	7	37				
FOOTAGE	2,500 - 3,749	90,467	--	23,135	113,602	3,016	--	3,305	3,070
COSTS $		6,997,500	--	918,930	7,916,430	233,250	--	131,276	213,958
WELLS		5	--	4	9				
FOOTAGE	3,750 - 4,999	20,784	--	16,163	36,947	4,157	--	4,041	4,105
COSTS $		1,580,526	--	388,156	1,968,682	316,105	--	97,039	218,742
WELLS		2	4	14	20				
FOOTAGE	5,000 - 7,499	13,060	24,445	84,846	122,351	6,530	6,111	6,060	6,118
COSTS $		1,178,788	682,496	2,167,438	4,028,722	589,394	170,624	154,817	201,436
WELLS		3	28	11	42				
FOOTAGE	7,500 - 9,999	26,945	258,266	95,535	380,746	8,982	9,224	8,685	9,065
COSTS $		1,758,738	15,664,685	3,522,850	20,946,273	586,246	559,453	320,259	498,721
WELLS		1	42	4	47				
FOOTAGE	10,000 - 12,499	11,290	484,027	46,410	541,727	11,290	11,524	11,603	11,526
COSTS $		494,332	50,402,031	4,130,923	55,027,286	494,332	1,200,048	1,032,731	1,170,793
WELLS		1	14	3	18				
FOOTAGE	12,500 - 14,999	14,200	187,579	40,293	242,072	14,200	13,399	13,431	13,448
COSTS $		1,428,520	21,060,361	3,863,249	26,352,130	1,428,520	1,504,312	1,287,750	1,464,007
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		79	88	53	220				
TOTAL FOOTAGE		223,662	954,317	318,429	1,496,408	2,831	10,845	6,008	6,802
TOTAL COSTS $		15,998,524	87,809,573	15,174,779	118,982,876	202,513	997,836	286,317	540,831

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS RRC DIST. 6

Table 42

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		27	2	--	29				
FOOTAGE	0 - 1,249	17,135	1,946	--	19,081	635	973	--	658
COSTS $		604,510	59,975	--	664,485	22,389	29,988	--	22,913
WELLS		7	6	2	15				
FOOTAGE	1,250 - 2,499	12,507	13,758	3,746	30,011	1,787	2,293	1,873	2,001
COSTS $		614,756	509,595	116,200	1,240,551	87,822	84,933	58,100	82,703
WELLS		9	3	5	17				
FOOTAGE	2,500 - 3,749	30,900	9,246	17,005	57,151	3,433	3,082	3,401	3,362
COSTS $		1,668,061	378,438	771,335	2,817,834	185,340	126,146	154,267	165,755
WELLS		13	1	4	18				
FOOTAGE	3,750 - 4,999	55,384	4,850	17,328	77,562	4,260	4,850	4,332	4,309
COSTS $		2,832,581	158,414	674,491	3,665,486	217,891	158,414	168,623	203,638
WELLS		43	48	56	147				
FOOTAGE	5,000 - 7,499	285,695	322,715	363,202	971,612	6,644	6,723	6,486	6,610
COSTS $		15,624,786	19,810,274	10,749,293	46,184,353	363,367	412,714	191,952	314,179
WELLS		26	176	38	240				
FOOTAGE	7,500 - 9,999	216,977	1,665,194	310,472	2,192,643	8,345	9,461	8,170	9,136
COSTS $		14,435,158	180,726,685	9,356,195	204,518,038	555,198	1,026,856	246,216	852,159
WELLS		2	85	11	98				
FOOTAGE	10,000 - 12,499	21,570	903,027	123,260	1,047,857	10,785	10,624	11,205	10,692
COSTS $		2,019,399	107,295,763	6,268,685	115,583,847	1,009,700	1,262,303	569,880	1,179,427
WELLS		--	6	3	9				
FOOTAGE	12,500 - 14,999	--	79,190	39,517	118,707	--	13,198	13,172	13,190
COSTS $		--	9,863,513	2,487,476	12,350,989	--	1,643,919	829,159	1,372,332
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	2	2				
FOOTAGE	17,500 - 19,999	--	--	38,267	38,267	--	--	19,134	19,134
COSTS $		--	--	10,901,503	10,901,503	--	--	5,450,752	5,450,752
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		127	327	121	575				
TOTAL FOOTAGE		640,168	2,999,926	912,797	4,552,891	5,041	9,174	7,544	7,918
TOTAL COSTS $		37,799,251	318,802,657	41,325,178	397,927,086	297,632	974,932	341,530	692,047

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS RRC DIST. 7B

Table 43

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		65	19	72	156				
FOOTAGE	0 - 1,249	51,778	15,431	53,584	120,793	797	812	744	774
COSTS $		1,024,826	261,947	720,803	2,007,576	15,767	13,787	10,011	12,869
WELLS		86	12	109	207				
FOOTAGE	1,250 - 2,499	152,425	21,577	192,912	366,914	1,772	1,798	1,770	1,773
COSTS $		2,931,598	392,969	2,675,641	6,000,208	34,088	32,747	24,547	28,987
WELLS		89	22	92	203				
FOOTAGE	2,500 - 3,749	281,278	72,271	286,200	639,749	3,160	3,285	3,111	3,151
COSTS $		7,095,114	2,048,983	4,980,729	14,124,826	79,720	93,136	54,138	69,580
WELLS		111	41	91	243				
FOOTAGE	3,750 - 4,999	495,814	175,612	394,466	1,065,892	4,467	4,283	4,335	4,386
COSTS $		15,146,516	6,244,659	7,324,866	28,716,041	136,455	152,309	80,493	118,173
WELLS		46	12	60	118				
FOOTAGE	5,000 - 7,499	260,755	65,029	346,612	672,396	5,669	5,419	5,777	5,698
COSTS $		8,778,168	2,725,871	5,361,183	16,865,222	190,830	227,156	89,353	142,926
WELLS		2	--	--	2				
FOOTAGE	7,500 - 9,999	18,790	--	--	18,790	9,395	--	--	9,395
COSTS $		731,305	--	--	731,305	365,653	--	--	365,653
WELLS		1	--	1	2				
FOOTAGE	10,000 - 12,499	10,066	--	10,000	20,066	10,066	--	10,000	10,033
COSTS $		404,653	--	195,800	600,453	404,653	--	195,800	300,227
WELLS		--	--	--	--				
FOOTAGE	12,500 - 14,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	15,000 - 17,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		400	106	425	931				
TOTAL FOOTAGE		1,270,906	349,920	1,283,774	2,904,600	3,177	3,301	3,021	3,120
TOTAL COSTS $		36,112,180	11,674,429	21,259,022	69,045,631	90,280	110,136	50,021	74,163

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS RRC DIST. 7C

Table 44

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS	0 - 1,249	11	--	10	21				
FOOTAGE		10,962	--	8,613	19,575	997	--	861	932
COSTS $		496,274	--	148,444	644,718	45,116	--	14,844	30,701
WELLS	1,250 - 2,499	77	3	44	124				
FOOTAGE		162,327	5,436	91,466	259,229	2,108	1,812	2,079	2,091
COSTS $		7,598,403	441,076	2,216,527	10,256,006	98,681	147,025	50,376	82,710
WELLS	2,500 - 3,749	54	4	46	104				
FOOTAGE		154,549	12,519	145,440	312,508	2,862	3,130	3,162	3,005
COSTS $		7,024,568	948,642	3,110,135	11,083,345	130,085	237,161	67,612	106,571
WELLS	3,750 - 4,999	28	10	48	86				
FOOTAGE		119,291	46,121	205,387	370,799	4,260	4,612	4,279	4,312
COSTS $		4,439,100	2,275,371	4,762,776	11,477,247	158,539	227,537	99,225	133,456
WELLS	5,000 - 7,499	55	197	39	291				
FOOTAGE		348,977	1,301,967	239,074	1,890,018	6,345	6,609	6,130	6,495
COSTS $		15,784,543	63,164,752	5,640,176	84,589,471	286,992	320,633	144,620	290,685
WELLS	7,500 - 9,999	144	42	15	201				
FOOTAGE		1,206,634	353,695	133,660	1,693,989	8,379	8,421	8,911	8,428
COSTS $		54,253,549	17,894,889	4,568,472	76,716,904	376,761	426,069	304,565	381,676
WELLS	10,000 - 12,499	4	1	5	10				
FOOTAGE		42,924	10,750	51,670	105,344	10,731	10,750	10,334	10,534
COSTS $		3,060,816	595,541	2,235,487	5,891,844	765,204	595,541	447,097	589,184
WELLS	12,500 - 14,999	--	--	1	1				
FOOTAGE		--	--	12,698	12,698	--	--	12,698	12,698
COSTS $		--	--	1,146,905	1,146,905	--	--	1,146,905	1,146,905
WELLS	15,000 - 17,499	--	1	--	1				
FOOTAGE		--	15,325	--	15,325	--	15,325	--	15,325
COSTS $		--	2,316,286	--	2,316,286	--	2,316,286	--	2,316,286
WELLS	17,500 - 19,999	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	20,000 & OVER	--	--	1	1				
FOOTAGE		--	--	25,357	25,357	--	--	25,357	25,357
COSTS $		--	--	3,801,810	3,801,810	--	--	3,801,810	3,801,810
TOTAL WELLS		373	258	209	840				
TOTAL FOOTAGE		2,045,664	1,745,813	913,365	4,704,842	5,484	6,767	4,370	5,601
TOTAL COSTS $		92,657,247	87,636,557	27,630,732	207,924,536	248,411	339,677	132,204	247,529

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS RRC DIST. 8

Table 45

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		1	--	5	6				
FOOTAGE	0 - 1,249	448	--	3,346	3,794	448	--	669	632
COSTS $		27,090	--	150,197	177,287	27,090	--	30,039	29,548
WELLS		22	--	4	26				
FOOTAGE	1,250 - 2,499	43,973	--	7,978	51,951	1,999	--	1,995	1,998
COSTS $		3,672,758	--	293,510	3,966,268	166,944	--	73,378	152,549
WELLS		167	11	17	195				
FOOTAGE	2,500 - 3,749	524.670	33,385	55,917	613,972	3,142	3,035	3,289	3,149
COSTS $		31,354,872	3,215,646	2,589,026	37,159,544	187,754	292,331	152,296	190,562
WELLS		232	4	13	249				
FOOTAGE	3,750 - 4,999	1,063,963	18,358	58,493	1,140,814	4,586	4,590	4,499	4,582
COSTS $		48,991,753	2,066,201	1,835,826	52,893,780	211,171	516,550	141,217	212,425
WELLS		140	7	19	166				
FOOTAGE	5,000 - 7,499	861,023	35,709	112,886	1,009,618	6,150	5,101	5,941	6,082
COSTS $		42,536,846	3,431,650	3,669,983	49,638,479	303,835	490,236	193,157	299,027
WELLS		344	16	26	386				
FOOTAGE	7,500 - 9,999	3,054,044	126,825	220,648	3,401,517	8,878	7,927	8,486	8,812
COSTS $		152,276,469	7,800,315	10,195,687	170,272,471	442,664	487,520	392,142	441,120
WELLS		53	--	20	73				
FOOTAGE	10,000 - 12,499	573,347	--	224,318	797,665	10,818	--	11,216	10,927
COSTS $		37,508,603	--	13,230,768	50,739,371	707,710	--	661,538	695,060
WELLS		10	1	6	17				
FOOTAGE	12,500 - 14,999	126,421	12,647	80,597	219,665	12,642	12,647	13,433	12,921
COSTS $		10,016,732	1,526,191	8,183,949	19,726,872	1,001,673	1,526,191	1,363,992	1,160,404
WELLS		--	1	1	2				
FOOTAGE	15,000 - 17,499	--	16,990	15,685	32,675	--	16,990	15,685	16,338
COSTS $		--	3,165,888	2,277,303	5,443,191	--	3,165,888	2,277,303	2,721,596
WELLS		--	--	1	1				
FOOTAGE	17,500 - 19,999	--	--	19,665	19,665	--	--	19,665	19,665
COSTS $		--	--	2,236,126	2,236,126	--	--	2,236,126	2,236,126
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		969	40	112	1,121				
TOTAL FOOTAGE		6,247,889	243,914	799,533	7,291,336	6,448	6,098	7,139	6,504
TOTAL COSTS $		326,385,123	21,205,891	44,662,375	392,253,389	336,827	530,147	398,771	349,914

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS RRC DIST. 8A

Table 46

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		—	--	4	4				
FOOTAGE	0 - 1,249	—	--	2,019	2,019	—	--	505	505
COSTS $		—	--	142,549	142,549	—	--	35,637	35,637
WELLS		19	--	1	20				
FOOTAGE	1,250 - 2,499	34,397	--	2,000	36,397	1,810	--	2,000	1,820
COSTS $		1,134,824	--	51,356	1,186,180	59,728	--	51,356	59,309
WELLS		22	--	13	35				
FOOTAGE	2,500 - 3,749	71,124	--	42,710	113,834	3,233	--	3,285	3,252
COSTS $		2,744,828	--	1,117,233	3,862,061	124,765	--	85,941	110,345
WELLS		184	--	30	214				
FOOTAGE	3,750 - 4,999	876,161	--	130,428	1,006,589	4,762	--	4,348	4,704
COSTS $		34,181,855	--	2,920,852	37,102,707	185,771	--	97,362	173,377
WELLS		317	1	46	364				
FOOTAGE	5,000 - 7,499	1,911,336	6,021	281,995	2,199,352	6,029	6,021	6,130	6,042
COSTS $		94,178,625	186,495	7,493,267	101,858,387	297,093	186,495	162,897	279,831
WELLS		52	--	27	79				
FOOTAGE	7,500 - 9,999	421,663	--	231,731	653,394	8,109	--	8,583	8,271
COSTS $		25,305,003	--	8,495,810	33,800,813	486,635	--	314,660	427,858
WELLS		11	--	21	32				
FOOTAGE	10,000 - 12,499	128,404	--	237,961	366,365	11,673	--	11,331	11,449
COSTS $		8,543,285	--	10,366,926	18,910,211	776,662	--	493,663	590,944
WELLS		3	--	6	9				
FOOTAGE	12,500 - 14,999	38,429	--	77,391	115,820	12,810	--	12,899	12,869
COSTS $		2,608,805	--	3,511,183	6,119,988	869,602	--	585,197	679,999
WELLS		—	--	--	--				
FOOTAGE	15,000 - 17,499	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
WELLS		—	--	--	--				
FOOTAGE	17,500 - 19,999	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
WELLS		—	--	--	--				
FOOTAGE	20,000 & OVER	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
TOTAL WELLS		608	1	148	757				
TOTAL FOOTAGE		3,481,514	6,021	1,006,235	4,493,770	5,726	6,021	6,799	5,936
TOTAL COSTS $		168,697,225	186,495	34,099,176	202,982,896	277,463	186,495	230,400	268,141

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS RRC DIST. 9

Table 47

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		93	2	69	164				
FOOTAGE	0 - 1,249	68,240	1,506	53,121	122,867	734	753	770	749
COSTS $		1,435,895	39,144	578,702	2,053,741	15,440	19,572	8,387	12,523
WELLS		172	—	106	278				
FOOTAGE	1,250 - 2,499	306,116	—	194,502	500,618	1,780	--	1,835	1,801
COSTS $		6,169,129	—	1,964,800	8,133,929	35,867	--	18,536	29,259
WELLS		30	—	32	62				
FOOTAGE	2,500 - 3,749	98,214	—	99,212	197,426	3,274	--	3,100	3,184
COSTS $		2,649,628	—	1,300,558	3,950,186	88,321	--	40,642	63,713
WELLS		70	5	56	131				
FOOTAGE	3,750 - 4,999	310,824	22,414	251,438	584,676	4,440	4,483	4,490	4,463
COSTS $		9,149,585	641,026	4,540,380	14,330,991	130,708	128,205	81,078	109,397
WELLS		92	65	58	215				
FOOTAGE	5,000 - 7,499	517,291	413,961	338,369	1,269,621	5,623	6,369	5,834	5,905
COSTS $		19,807,821	21,363,849	7,266,863	48,438,533	215,302	328,675	125,291	225,296
WELLS		23	27	20	70				
FOOTAGE	7,500 - 9,999	193,791	213,086	170,423	577,300	8,426	7,892	8,521	8,247
COSTS $		9,533,163	17,393,189	4,469,131	31,395,483	414,485	644,192	223,457	448,507
WELLS		—	1	—	1				
FOOTAGE	10,000 - 12,499	—	11,815	—	11,815	—	11,815	--	11,815
COSTS $		—	1,319,019	—	1,319,019	—	1,319,019	--	1,319,019
WELLS		—	--	--	--				
FOOTAGE	12,500 - 14,999	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
WELLS		—	--	--	--				
FOOTAGE	15,000 - 17,499	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
WELLS		—	--	--	--				
FOOTAGE	17,500 - 19,999	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	—	--	--	--	—	--	--	--
COSTS $		—	--	--	--	—	--	--	--
TOTAL WELLS		480	100	341	921				
TOTAL FOOTAGE		1,494,476	662,782	1,107,065	3,264,323	3,113	6,628	3,247	3,544
TOTAL COSTS $		48,745,221	40,756,227	20,120,434	109,621,882	101,553	407,562	59,004	119,025

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS RRC DIST. 10

Table 48

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		—	--	2	2				
FOOTAGE	0 - 1,249	—	--	1,488	1,488	--	--	744	744
COSTS $		—	--	127,492	127,492	--	--	63,746	63,746
WELLS		1	3	7	11				
FOOTAGE	1,250 - 2,499	2,388	6,199	13,442	22,029	2,388	2,066	1,920	2,003
COSTS $		113,320	422,173	544,714	1,080,207	113,320	140,724	77,816	98,201
WELLS		62	27	4	93				
FOOTAGE	2,500 - 3,749	204,946	90,198	13,408	308,552	3,306	3,341	3,352	3,318
COSTS $		9,232,363	5,503,359	412,692	15,148,414	148,909	203,828	103,173	162,886
WELLS		4	4	3	11				
FOOTAGE	3,750 - 4,999	16,164	17,934	13,100	47,198	4,041	4,484	4,367	4,291
COSTS $		662,024	884,435	373,037	1,919,496	165,506	221,109	124,346	174,500
WELLS		16	23	24	63				
FOOTAGE	5,000 - 7,499	99,838	145,266	158,666	403,770	6,240	6,316	6,611	6,409
COSTS $		5,061,948	6,092,456	4,438,662	15,593,066	316,372	264,889	184,944	247,509
WELLS		9	31	20	60				
FOOTAGE	7,500 - 9,999	74,391	263,392	176,286	514,069	8,266	8,497	8,814	8,568
COSTS $		4,656,288	12,138,201	5,856,252	22,650,741	517,365	391,555	292,813	377,512
WELLS		2	8	3	13				
FOOTAGE	10,000 - 12,499	22,995	88,800	34,150	145,945	11,498	11,100	11,383	11,227
COSTS $		1,848,916	5,534,204	1,180,973	8,564,093	924,458	691,776	393,658	658,776
WELLS		3	4	1	8				
FOOTAGE	12,500 - 14,999	37,528	55,820	14,700	108,048	12,509	13,955	14,700	13,506
COSTS $		3,155,145	5,123,641	817,337	9,096,123	1,051,715	1,280,910	817,337	1,137,015
WELLS		—	1	1	2				
FOOTAGE	15,000 - 17,499	—	15,300	15,212	30,512	—	15,300	15,212	15,256
COSTS $		—	1,883,626	897,271	2,780,897	—	1,883,626	897,271	1,390,449
WELLS		—	--	--	--				
FOOTAGE	17,500 - 19,999	—	--	--	--	--	--	--	--
COSTS $		—	--	--	--	--	--	--	--
WELLS		—	--	--	--				
FOOTAGE	20,000 & OVER	—	--	--	--	--	--	--	--
COSTS $		—	--	--	--	--	--	--	--
TOTAL WELLS		97	101	65	263				
TOTAL FOOTAGE		458,250	682,909	440,452	1,581,611	4,724	6,761	6,776	6,014
TOTAL COSTS $		24,730,004	37,582,095	14,648,430	76,960,529	254,949	372,100	225,360	292,626

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

TEXAS - OFFSHORE

Table 49

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	2	1	3				
FOOTAGE	1,250 - 2,499	--	4,421	2,255	6,676	--	2,211	2,255	2,225
COSTS $		--	1,234,181	610,605	1,844,786	--	617,091	610,605	614,929
WELLS		--	--	1	1				
FOOTAGE	2,500 - 3,749	--	--	3,200	3,200	--	--	3,200	3,200
COSTS $		--	--	1,150,749	1,150,749	--	--	1,150,749	1,150,749
WELLS		--	1	3	4				
FOOTAGE	3,750 - 4,999	--	4,900	12,488	17,388	--	4,900	4,163	4,347
COSTS $		--	1,488,992	2,087,995	3,576,987	--	1,488,992	695,998	894,247
WELLS		2	4	15	21				
FOOTAGE	5,000 - 7,499	12,720	26,383	97,171	136,274	6,360	6,596	6,478	6,489
COSTS $		7,779,251	8,228,639	14,937,176	30,945,066	3,889,626	2,057,160	995,812	1,473,575
WELLS		8	22	43	73				
FOOTAGE	7,500 - 9,999	67,915	196,162	371,260	635,337	8,489	8,916	8,634	8,703
COSTS $		22,112,005	73,717,446	67,909,278	163,738,729	2,764,001	3,350,793	1,579,286	2,242,996
WELLS		2	6	23	31				
FOOTAGE	10,000 - 12,499	22,171	67,436	263,045	352,652	11,086	11,239	11,437	11,376
COSTS $		6,322,795	18,759,948	64,976,729	90,059,472	3,161,398	3,126,658	2,825,075	2,905,144
WELLS		3	5	10	18				
FOOTAGE	12,500 - 14,999	39,876	67,829	135,731	243,436	13,292	13,566	13,573	13,524
COSTS $		12,223,585	21,084,753	46,112,021	79,420,359	4,074,528	4,216,951	4,611,202	4,412,242
WELLS		1	--	3	4				
FOOTAGE	15,000 - 17,499	16,590	--	46,417	63,007	16,590	--	15,472	15,752
COSTS $		2,239,517	--	24,996,606	27,236,123	2,239,517	--	8,332,202	6,809,031
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		16	40	99	155				
TOTAL FOOTAGE		159,272	367,131	931,567	1,457,970	9,955	9,178	9,410	9,406
TOTAL COSTS $		50,677,153	124,513,959	222,781,159	397,972,271	3,167,322	3,112,849	2,250,315	2,567,563

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

UTAH

Table 50

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		3	--	2	5				
FOOTAGE	0 - 1,249	2,060	--	1,263	3,323	687	--	632	665
COSTS $		213,210	--	122,415	335,625	71,070	--	61,208	67,125
WELLS		--	--	1	1				
FOOTAGE	1,250 - 2,499	--	--	1,300	1,300	--	--	1,300	1,300
COSTS $		--	--	65,755	65,755	--	--	65,755	65,755
WELLS		--	2	1	3				
FOOTAGE	2,500 - 3,749	--	7,325	3,720	11,045	--	3,663	3,720	3,682
COSTS $		--	408,074	125,195	533,269	--	204,037	125,195	177,756
WELLS		1	3	3	7				
FOOTAGE	3,750 - 4,999	4,017	13,739	13,473	31,229	4,017	4,580	4,491	4,461
COSTS $		218,937	826,913	500,417	1,546,267	218,937	275,638	166,806	220,895
WELLS		27	7	10	44				
FOOTAGE	5,000 - 7,499	164,139	43,919	61,724	269,782	6,079	6,274	6,172	6,131
COSTS $		15,241,377	3,460,113	3,068,337	21,769,827	564,495	494,302	306,834	494,769
WELLS		3	6	3	12				
FOOTAGE	7,500 - 9,999	25,100	49,567	24,965	99,632	8,367	8,261	8,322	8,303
COSTS $		2,733,493	5,119,750	1,829,267	9,682,510	911,164	853,292	609,756	806,876
WELLS		--	--	--	--				
FOOTAGE	10,000 - 12,499	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		14	--	1	15				
FOOTAGE	12,500 - 14,999	191,876	--	12,702	204,578	13,705	--	12,702	13,639
COSTS $		31,693,796	--	2,389,805	34,083,601	2,263,843	--	2,389,805	2,272,240
WELLS		1	1	1	3				
FOOTAGE	15,000 - 17,499	15,660	16,706	15,401	47,767	15,660	16,706	15,401	15,922
COSTS $		3,253,082	2,188,463	4,019,337	9,460,882	3,253,082	2,188,463	4,019,337	3,153,627
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		49	19	22	90				
TOTAL FOOTAGE		402,852	131,256	134,548	668,656	8,221	6,908	6,116	7,430
TOTAL COSTS $		53,353,895	12,003,313	12,120,528	77,477,736	1,088,855	631,753	550,933	860,864

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

WYOMING

Table 51

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		40	41	37	118				
FOOTAGE	0 - 1,249	27,419	19,229	24,018	70,666	685	469	649	599
COSTS $		2,554,169	1,404,825	652,353	4,611,347	63,854	34,264	17,631	39,079
WELLS		45	8	11	64				
FOOTAGE	1,250 - 2,499	83,908	16,005	17,862	117,775	1,865	2,001	1,624	1,840
COSTS $		3,728,913	1,336,416	740,886	5,806,215	82,865	167,052	67,353	90,722
WELLS		13	9	14	36				
FOOTAGE	2,500 - 3,749	43,641	27,108	44,003	114,752	3,357	3,012	3,143	3,188
COSTS $		2,742,749	2,881,614	1,662,072	7,286,435	210,981	320,179	118,719	202,401
WELLS		24	7	9	40				
FOOTAGE	3,750 - 4,999	103,215	30,762	39,316	173,293	4,301	4,395	4,368	4,332
COSTS $		9,631,743	3,235,455	1,254,645	14,121,843	401,323	462,208	139,405	353,046
WELLS		49	16	53	118				
FOOTAGE	5,000 - 7,499	326,978	105,012	347,852	779,842	6,673	6,563	6,563	6,609
COSTS $		21,537,929	8,797,016	10,057,668	40,392,613	439,550	549,814	189,767	342,310
WELLS		46	64	82	192				
FOOTAGE	7,500 - 9,999	410,349	523,302	704,126	1,637,777	8,921	8,177	8,587	8,530
COSTS $		28,689,633	56,602,245	17,631,203	102,923,081	623,688	884,410	215,015	536,058
WELLS		37	44	53	134				
FOOTAGE	10,000 - 12,499	402,252	504,115	594,841	1,501,208	10,872	11,457	11,223	11,203
COSTS $		27,721,807	52,576,305	20,745,800	101,043,912	749,238	1,194,916	391,430	754,059
WELLS		9	28	13	50				
FOOTAGE	12,500 - 14,999	114,969	359,975	173,905	648,849	12,774	12,856	13,377	12,977
COSTS $		9,994,549	37,891,005	9,285,709	57,171,263	1,110,506	1,353,250	714,285	1,143,425
WELLS		1	1	2	4				
FOOTAGE	15,000 - 17,499	15,283	15,260	31,227	61,770	15,283	15,260	15,614	15,443
COSTS $		3,572,935	1,065,603	1,800,642	6,439,180	3,572,935	1,065,603	900,321	1,609,795
WELLS		--	--	--	--				
FOOTAGE	17,500 - 19,999	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		264	218	274	756				
TOTAL FOOTAGE		1,528,014	1,600,768	1,977,150	5,105,932	5,788	7,343	7,216	6,754
TOTAL COSTS $		110,174,427	165,790,484	63,830,978	339,795,889	417,327	760,507	232,960	449,465

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

APPALACHIAN*

Table 52

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS	0 - 1,249	16	8	19	43				
FOOTAGE		11,693	7,371	13,374	32,438	731	921	704	754
COSTS $		539,340	391,937	463,752	1,395,029	33,709	48,992	24,408	32,443
WELLS	1,250 - 2,499	92	116	10	218				
FOOTAGE		201,600	244,562	20,043	466,205	2,191	2,108	2,004	2,139
COSTS $		4,855,436	8,441,760	712,881	14,010,077	52,776	72,774	71,288	64,266
WELLS	2,500 - 3,749	213	265	46	524				
FOOTAGE		669,244	887,250	146,896	1,703,390	3,142	3,348	3,193	3,251
COSTS $		17,785,324	31,932,712	3,919,690	53,637,726	83,499	120,501	85,211	102,362
WELLS	3,750 - 4,999	286	385	38	709				
FOOTAGE		1,236,035	1,705,801	167,107	3,108,943	4,322	4,431	4,398	4,385
COSTS $		35,234,567	57,494,239	4,577,610	97,306,416	123,198	149,336	120,463	137,245
WELLS	5,000 - 7,499	234	732	39	1,005				
FOOTAGE		1,352,810	4,087,249	234,281	5,674,340	5,781	5,584	6,007	5,646
COSTS $		37,092,608	129,266,961	4,736,618	171,096,187	158,515	176,594	121,452	170,245
WELLS	7,500 - 9,999	--	17	6	23				
FOOTAGE		--	140,863	51,749	192,612	--	8,286	8,625	8,374
COSTS $		--	9,646,628	2,471,124	12,117,752	--	567,449	411,854	526,859
WELLS	10,000 - 12,499	--	1	--	1				
FOOTAGE		--	11,203	--	11,203	--	11,203	--	11,203
COSTS $		--	1,342,589	--	1,342,589	--	1,342,589	--	1,342,589
WELLS	12,500 - 14,999	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	15,000 - 17,499	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	17,500 - 19,999	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	20,000 & OVER	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		841	1,524	158	2,523				
TOTAL FOOTAGE		3,471,382	7,084,299	633,450	11,189,131	4,128	4,648	4,009	4,435
TOTAL COSTS $		95,507,275	238,516,826	16,881,675	350,905,776	113,564	156,507	106,846	139,083

* Includes New York, Ohio, Pennsylvania, and West Virginia.

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

Table 53

OFFSHORE FED - TOTAL

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS	0 - 1,249	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS	1,250 - 2,499	--	--	2	2				
FOOTAGE		--	--	4,447	4,447	--	--	2,224	2,224
COSTS $		--	--	1,989,188	1,989,188	--	--	994,594	994,594
WELLS	2,500 - 3,749	--	--	3	3				
FOOTAGE		--	--	8,493	8,493	--	--	2,831	2,831
COSTS $		--	--	3,913,173	3,913,173	--	--	1,304,391	1,304,391
WELLS	3,750 - 4,999	5	--	1	6				
FOOTAGE		23,653	--	4,784	28,437	4,731	--	4,784	4,740
COSTS $		3,874,000	--	2,858,813	6,732,813	774,800	--	2,858,813	1,122,136
WELLS	5,000 - 7,499	2	1	9	12				
FOOTAGE		12,039	7,447	57,412	76,898	6,020	7,447	6,379	6,408
COSTS $		2,269,000	728,556	24,636,040	27,633,596	1,134,500	728,556	2,737,338	2,302,800
WELLS	7,500 - 9,999	23	5	4	32				
FOOTAGE		198,168	44,925	36,822	279,915	8,616	8,985	9,206	8,747
COSTS $		42,062,237	12,556,404	24,583,931	79,202,572	1,828,793	2,511,281	6,145,983	2,475,081
WELLS	10,000 - 12,499	14	1	19	34				
FOOTAGE		154,556	11,205	211,119	376,880	11,040	11,205	11,112	11,085
COSTS $		47,621,328	8,024,067	91,096,325	146,741,720	3,401,524	8,024,067	4,794,544	4,315,933
WELLS	12,500 - 14,999	5	--	10	15				
FOOTAGE		66,892	--	137,039	203,931	13,378	--	13,704	13,595
COSTS $		22,436,962	--	85,617,736	108,054,698	4,487,393	--	8,561,774	7,203,647
WELLS	15,000 - 17,499	1	1	5	7				
FOOTAGE		15,478	15,400	80,066	110,944	15,478	15,400	16,013	15,849
COSTS $		4,822,976	5,617,116	49,876,947	60,317,039	4,822,976	5,617,116	9,975,389	8,616,720
WELLS	17,500 - 19,999	2	--	1	3				
FOOTAGE		35,490	--	18,121	53,611	17,745	--	18,121	17,870
COSTS $		9,944,350	--	10,217,779	20,162,129	4,972,175	--	10,217,779	6,720,710
WELLS	20,000 & OVER	--	--	--	--				
FOOTAGE		--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		52	8	54	114				
TOTAL FOOTAGE		506,276	78,977	558,303	1,143,556	9,736	9,872	10,339	10,031
TOTAL COSTS $		133,030,853	26,926,143	294,789,932	454,746,928	2,558,286	3,365,768	5,459,073	3,989,008

ESTIMATED COSTS OF DRILLING AND EQUIPPING WELLS, BY DEPTH INTERVALS - 1990

OFFSHORE FED. - GULF NORTH

Table 54

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		--	--	--	--				
FOOTAGE	0 - 1,249	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
WELLS		--	--	2	2				
FOOTAGE	1,250 - 2,499	--	--	4,447	4,447	--	--	2,224	2,224
COSTS $		--	--	1,989,188	1,989,188	--	--	994,594	994,594
WELLS		--	--	3	3				
FOOTAGE	2,500 - 3,749	--	--	8,493	8,493	--	--	2,831	2,831
COSTS $		--	--	3,913,173	3,913,173	--	--	1,304,391	1,304,391
WELLS		5	--	1	6				
FOOTAGE	3,750 - 4,999	23,653	--	4,784	28,437	4,731	--	4,784	4,740
COSTS $		3,874,000	--	2,858,813	6,732,813	774,800	--	2,858,813	1,122,136
WELLS		2	1	9	12				
FOOTAGE	5,000 - 7,499	12,039	7,447	57,412	76,898	6,020	7,447	6,379	6,408
COSTS $		2,269,000	728,556	24,636,040	27,633,596	1,134,500	728,556	2,737,338	2,302,800
WELLS		23	5	4	32				
FOOTAGE	7,500 - 9,999	198,168	44,925	36,822	279,915	8,616	8,985	9,206	8,747
COSTS $		42,062,237	12,556,404	24,583,931	79,202,572	1,828,793	2,511,281	6,145,983	2,475,081
WELLS		14	1	19	34				
FOOTAGE	10,000 - 12,499	154,556	11,205	211,119	376,880	11,040	11,205	11,112	11,085
COSTS $		47,621,328	8,024,067	91,096,325	146,741,720	3,401,524	8,024,067	4,794,544	4,315,933
WELLS		5	--	10	15				
FOOTAGE	12,500 - 14,999	66,892	--	137,039	203,931	13,378	--	13,704	13,595
COSTS $		22,436,962	--	85,617,736	108,054,698	4,487,393	--	8,561,774	7,203,647
WELLS		1	1	5	7				
FOOTAGE	15,000 - 17,499	15,478	15,400	80,066	110,944	15,478	15,400	16,013	15,849
COSTS $		4,822,976	5,617,116	49,876,947	60,317,039	4,822,976	5,617,116	9,975,389	8,616,720
WELLS		2	--	1	3				
FOOTAGE	17,500 - 19,999	35,490	--	18,121	53,611	17,745	--	18,121	17,870
COSTS $		9,944,350	--	10,217,779	20,162,129	4,972,175	--	10,217,779	6,720,710
WELLS		--	--	--	--				
FOOTAGE	20,000 & OVER	--	--	--	--	--	--	--	--
COSTS $		--	--	--	--	--	--	--	--
TOTAL WELLS		52	8	54	114				
TOTAL FOOTAGE		506,276	78,977	558,303	1,143,556	9,736	9,872	10,339	10,031
TOTAL COSTS $		133,030,853	26,926,143	294,789,932	454,746,928	2,558,286	3,365,768	5,459,073	3,989,008

APPENDIX A: Questionnaire, Definitions, and Instructions

CONFIDENTIAL

JOINT ASSOCIATION SURVEY ON DRILLING COSTS

U.S. WELLS DRILLED, FOOTAGE AND COSTS

CONFIDENTIAL

PAGE

OPERATOR NAME	WELL NUMBER - LEASE NAME	STATE	SH	WELL IDENTIFICATION NUMBER
ABC OIL COMPANY	#1 J.M. OBERMILLER	CA	ON	04-029-23459

TYPE	OIL ZONES	GAS ZONES	DEPTH	COMPLETION DATE	SECTION	TWP	RANGE	CDS	X. COORD. OR LATITUDE ° ' "	Y. COORD. OR LONGITUDE ° ' "
EXP-OIL	1	0	3456	08/90	031	15-N	053-E			

COUNTY NAME	LOCATION	TOTAL COST
KERN	958 FNL 388 FWL	

COMMENTS:

OPERATOR NAME	WELL NUMBER - LEASE NAME	STATE	SH	WELL IDENTIFICATION NUMBER
ABC OIL COMPANY	#8 P.J. GIBSON	OK	ON	35-053-10432

TYPE	OIL ZONES	GAS ZONES	DEPTH	COMPLETION DATE	SECTION	TWP	RANGE	CDS	X. COORD. OR LATITUDE ° ' "	Y. COORD. OR LONGITUDE ° ' "
DEV-GAS	0	1	2335	04/90	017	19-N	044-E			

COUNTY NAME	LOCATION	TOTAL COST
GRANT	2130 FSL 1560 FWL	

COMMENTS:

OPERATOR NAME	WELL NUMBER - LEASE NAME	STATE	SH	WELL IDENTIFICATION NUMBER
ABC OIL COMPANY	B-3 OCS-G-3232	LA	OF	17-710-22106

TYPE	OIL ZONES	GAS ZONES	DEPTH	COMPLETION DATE	SECTION	TWP	RANGE	CDS	X. COORD. OR LATITUDE ° ' "	Y. COORD. OR LONGITUDE ° ' "
DEV-DRY	0	0	8724	11/90						

COUNTY NAME	LOCATION	TOTAL COST
EUGENE ISLAND SOUTH	BLOCK 361	

COMMENTS:

OPERATOR NAME	WELL NUMBER - LEASE NAME	STATE	SH	WELL IDENTIFICATION NUMBER

TYPE	OIL ZONES	GAS ZONES	DEPTH	COMPLETION DATE	SECTION	TWP	RANGE	CDS	X. COORD. OR LATITUDE ° ' "	Y. COORD. OR LONGITUDE ° ' "

COUNTY NAME	LOCATION	TOTAL COST

COMMENTS:

OPERATOR NAME	WELL NUMBER - LEASE NAME	STATE	SH	WELL IDENTIFICATION NUMBER

TYPE	OIL ZONES	GAS ZONES	DEPTH	COMPLETION DATE	SECTION	TWP	RANGE	CDS	X. COORD. OR LATITUDE ° ' "	Y. COORD. OR LONGITUDE ° ' "

COUNTY NAME	LOCATION	TOTAL COST

COMMENTS:

INDIVIDUAL SUBMITTING REPORT:_____ TELEPHONE NUMBER: AC_____

INSTRUCTIONS AND DEFINITIONS FOR DRILLING COSTS

1. **WELLS TO BE REPORTED.** Report each domestic well completed by you as OPERATOR (whether actually drilled by you or drilled for you by a contractor), in the survey year. Report each well completed by you as operator regardless of the size of your working interest in the well. Do not report wells drilled by others in which you may have had only a part of a working interest regardless of the size of such interest. Do not report wells started in the survey year or in prior years, but not completed as of December 31 of the survey year. Do not report wells reentered for completion at shallower depths, old wells drilled deeper, old wells worked over, stratigraphic tests, core test, or service wells (including input wells).

2. **SHORE.** Enter "OFF" if well is located offshore; enter "ON" if it is onshore. An offshore well is one which is bottomed at, or produces from, a point which lies seaward of the coastline. If a state agency uses a different basis for classifying onshore and offshore wells, the state classification should be used. In general, the term "coastline" means the line of ordinary low water along that portion of the coast which is in direct contact with the open sea or the line marking the seaward limit of inland waters. For the purposes of the JAS Cook Inlet (Alaska) is classified as "offshore".

3. **OP CODE.** Make no entry. The API will supply the operator code.

4. **WELL IDENTIFICATION NUMBER.** Enter the STATE DESIGNATED API NUMBER if it is available. Where states do not assign API well numbers, or if you do not know the number, leave this item blank.

5. **TYPE.** Insert the classification for each well reported as either an exploratory (EXP) or a development (DEV) well. Exploratory wells include new-field wildcats, new-pool wildcats, deeper-pool tests, shallower-pool tests, and outposts (extensions). Development wells include all wells drilled to produce oil and gas from pools discovered by previous drilling.

   Subclassify all wells as either oil, gas or dry holes, e.g. "EXP-OIL", "DEV-GAS", "EXP-DRY". An oil well is a well completed for the production of crude oil from at least one oil zone or reservoir. A gas well is one which can produce hydrocarbons existing initially in a gaseous phase in the reservoir. So-called gas condensate wells should be reported as gas wells. A dry hole is an exploratory or development well found to be incapable of producing either oil or gas in sufficient quantities to justify completion as an oil or gas well. The state regulatory classification should be used, if available; if not available, use a classification by company engineers.

   Count MULTIPLE COMPLETIONS as one well. (See Item 6 for definition.)

6. **OIL ZONES, GAS ZONES.** Enter the total number of separately producing oil zones and gas zones (reservoirs).

   As noted under Item 5, a multiple completion should be reported as one well. A multiple completion well is a well equipped to produce oil and/or gas separately from more than one reservoir. SUCH WELLS CONTAIN MULTIPLE STRINGS OF TUBING OR OTHER EQUIPMENT WHICH PERMIT PRODUCTION FROM THE VARIOUS COMPLETIONS TO BE MEASURED AND ACCOUNTED FOR SEPARATELY.

   Report a multiple completion well as an oil well if oil is produced from at least one of several zones, even though gas and gas condensate may be produced from one or more zones in the same well. Report a multiple completion well as a gas well if oil is not produced from any of the several zones.

   For a dry hole enter the word "DRY".

7. **DEPTH.** Report for each well the total feet of penetration measured down the well bore. Include all plugged back footage, but exclude bypassed footage resulting from remedial sidetrack drilling operations. For OFFSHORE WELLS drilled from a platform or a barge over water and the reference point is above water, the depth of the water is included in the total length of the well bore.

8. **COMPLETION DATE.** Enter the month and year of completion.

9. **SECTION, TWP, RANGE.** Enter location data if appropriate for area.

10. **COUNTY NAME AND LOCATION.** For each onshore well reported provide the county name, and for state and federal offshore waters provide pseudo-county names. Under location enter the designated block numbers for state and federal offshore wells and any other available information that would be helpful in identifying well locations.

11. **TOTAL COST.** Report the TOTAL cost (tangible and intangible) of each well completed by you as operator in the survey year (whether actually drilled by you or drilled for you by contractors). The TOTAL of such costs should be reported even though you as operator had only a part of a working interest in the well.

    Do not report costs of wells drilled by others in which you had a working interest regardless of the size of such interest. The costs to be reported are those associated with wells which are completed during the survey year and the dollar amount to be reported is the accumulated cost of such wells from the time locations were made until the wells were completed as productive wells or abandoned after drilling was terminated because they were non-productive.

    PLEASE ROUND OFF TOTAL COSTS TO THE NEAREST DOLLAR.

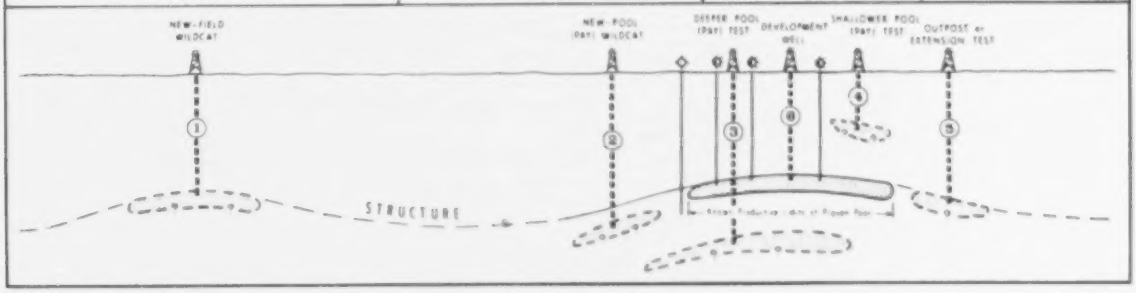
    In general, the elements contributing to reported cost are the expenditures for drilling dry holes and productive wells and equipping new productive wells through the "Christmas tree" installation. More specifically, these cost elements are the costs of labor, materials, supplies, water, fuels, power, and direct overhead (i.e., field, district, and regional), for such operations as site preparation, road building, erecting and dismantling derricks and drilling rigs, drilling hole, running and cementing casing, hauling materials, etc. Include the total cost of water, if purchased, or cost of water well, if drilled and chargeable to oil or gas well drilling operations. Well costs also include machinery and tool charges and rentals, and depreciation charges, where appropriate, for rigs and other equipment and facilities which will be used in drilling more than one well. Deduct the condition value of materials salvaged after use where appropriate.

    Do not report the cost of lease equipment such as artificial lift equipment and downhole lift equipment, flow lines, flow tanks, separators, etc., that are required for production. Do not reduce the costs by test well, bottom hole, or dry hole contributions.

    For OFFSHORE WELLS, include costs on fixed platforms and islands. Where facilities serve more than one well, the costs should be allocated to each well on the basis of the operator's best current estimate of the ultimate number of wells that will use the facility. Also, include cost expirations (depreciation or amortization) for company-owned mobile platforms, barges, and tenders.

AAPG and API Classification of Wells

OBJECTIVE OF DRILLING				INITIAL CLASSIFICATION ◇ WHEN DRILLING IS STARTED	FINAL CLASSIFICATION AFTER COMPLETION OR ABANDONMENT			
					SUCCESSFUL ●◇◆		UNSUCCESSFUL ◇	
Drilling for a **new field** on a structure or in an environment never before productive				1. NEW-FIELD WILDCAT	NEW-FIELD DISCOVERY WILDCAT		DRY NEW-FIELD WILDCAT	
Drilling for a **new pool** on a structure or in a geological environment already productive	NEW POOL TESTS	Drilling **outside limits** of a proved area of pool		2. NEW-POOL (PAY) WILDCAT	NEW-POOL DISCOVERY WELLS (Sometimes extension wells)	NEW-POOL DISCOVERY WILDCAT (Sometimes an extension well)	DRY NEW-POOL TESTS	DRY NEW-POOL WILDCAT
		Drilling **inside limits** of proved area of pool	For a **new pool below** deepest proven pool	3. DEEPER POOL (PAY) TEST		DEEPER POOL DISCOVERY WELL		DRY DEEPER POOL TEST
			For a **new pool above** deepest proven pool	4. SHALLOWER POOL (PAY) TEST		SHALLOWER POOL DISCOVERY WELL		DRY SHALLOWER POOL TEST
Drilling for **long extension** of a partly developed pool				5. OUTPOST or EXTENSION TEST	EXTENSION WELL (Sometimes a new-pool discovery well)		DRY OUTPOST OR DRY EXTENSION TEST	
Drilling to exploit or **develop** a hydrocarbon accumulation discovered by previous drilling				6. DEVELOPMENT WELL	DEVELOPMENT WELL		DRY DEVELOPMENT WELL	



LAHEE CLASSIFICATION OF WELLS, AS APPLIED BY CSD

Tests drilled with the intent of being completed as hydrocarbon producers if found

NEW FIELD WILDCAT. A new field wildcat is located far from producing pools, and on a structure which has not produced before. In regions where local structure has little or no control on accumulation, these holes are generally at least 2 miles from the nearest productive area. Distance, however, is not the determining factor. The classification is based on the degree of risk assumed by the operator, and his intention to test a structure or stratigraphic condition not previously proved productive.

NEW-POOL (PAY) WILDCAT. A new-pool wildcat is located to explore for new pools on a structure already producing, but off to one side of the presently producing area. In some regions where local structure is almost negligible as a control, exploration holes of this group may be called "near wildcats." Such will usually be less than 2 miles from the nearest productive area. Sometimes a new-pool wildcat may extend a pool already partly developed, if so its final classification is an Extension.

DEEPER-POOL (PAY) TEST. A deeper-pool test is an exploratory hole located within the productive area of a pool, or pools, already partly or wholly developed. It is drilled below the deepest such pool penetrated by it to explore for deeper unknown prospects. Sometimes such a hole extends a deeper pool which has been partly developed in another part of the field.

SHALLOWER-POOL (PAY) TEST. A shallower-pool test is exploratory only if drilled in search of some new productive reservoir, unknown but possibly suspected from data secured from other wells. The test must be located within the productive area of a pool, or pools, previously developed. Sometimes such a test extends a shallower-pool partly developed elsewhere in the same field.

OUTPOST OR EXTENSION TEST. An outpost is located and drilled with the expectation of extending for a considerable distance the productive area of a partly developed pool. It is usually two or more locations distant from the nearest productive area. Sometimes an outpost discovers a new pool.

DEVELOPMENT WELL. A well drilled to exploit a hydrocarbon accumulation discovered by previous drilling.

Tests drilled without the intent of being completed for hydrocarbon production

STRATIGRAPHIC TEST. A drilling effort, geologically directed, to obtain information pertaining to a specific earth condition that might lead toward a possible accumulation of hydrocarbon. It must be drilled without the intention of being completed for hydrocarbon production. This classification includes tests identified as core tests by some operators.

SERVICE WELL. A well that is either drilled or completed for the purpose of supporting production of an existing field through observation, injection, water supply, etc.

APPENDIX B: Summary of Sample Data

SUMMARY OF SAMPLE DATA - 1990

EXPLORATORY WELLS

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		3	12	42	57				
FOOTAGE	0 - 1,249	2,984	8,294	31,231	42,509	995	691	744	746
COSTS $		54,545	466,056	1,606,123	2,126,724	18,182	38,838	38,241	37,311
WELLS		5	26	88	119				
FOOTAGE	1,250 - 2,499	8,770	51,053	175,435	235,258	1,754	1,964	1,994	1,977
COSTS $		223,870	3,616,468	9,299,269	13,139,607	44,774	139,095	105,674	110,417
WELLS		22	26	150	198				
FOOTAGE	2,500 - 3,749	74,109	81,601	477,866	633,576	3,369	3,139	3,186	3,200
COSTS $		2,506,360	8,830,083	16,209,404	27,545,847	113,925	339,619	108,063	139,120
WELLS		61	32	323	416				
FOOTAGE	3,750 - 4,999	268,460	142,033	1,431,128	1,841,621	4,401	4,439	4,431	4,427
COSTS $		7,614,138	9,296,533	30,741,959	47,652,630	124,822	290,517	95,176	114,550
WELLS		77	83	413	573				
FOOTAGE	5,000 - 7,499	462,924	514,755	2,475,836	3,453,515	6,012	6,202	5,995	6,027
COSTS $		21,967,038	38,447,356	103,187,395	163,601,789	285,286	463,221	249,848	285,518
WELLS		55	69	227	351				
FOOTAGE	7,500 - 9,999	479,410	580,732	1,947,190	3,007,332	8,717	8,416	8,578	8,568
COSTS $		50,068,035	70,541,013	145,590,516	266,199,564	910,328	1,022,334	641,368	758,403
WELLS		41	46	159	246				
FOOTAGE	10,000 - 12,499	471,457	516,579	1,768,056	2,756,092	11,499	11,230	11,120	11,204
COSTS $		59,850,696	106,967,336	176,328,416	343,146,448	1,459,773	2,325,377	1,108,984	1,394,904
WELLS		44	45	105	194				
FOOTAGE	12,500 - 14,999	584,281	612,238	1,416,771	2,613,290	13,279	13,605	13,493	13,471
COSTS $		71,339,529	138,386,020	202,358,289	412,083,838	1,621,353	3,075,245	1,927,222	2,124,144
WELLS		6	14	38	58				
FOOTAGE	15,000 - 17,499	94,747	222,668	600,638	918,053	15,791	15,905	15,806	15,829
COSTS $		13,054,774	63,060,269	108,603,316	184,718,359	2,175,796	4,504,305	2,857,982	3,184,799
WELLS		2	3	11	16				
FOOTAGE	17,500 - 19,999	35,373	55,600	206,785	297,758	17,687	18,533	18,799	18,610
COSTS $		7,515,325	19,594,724	64,185,470	91,295,519	3,757,663	6,531,575	5,835,043	5,705,970
WELLS		—	2	5	7				
FOOTAGE	20,000 & OVER	—	43,108	110,242	153,350	—	21,554	22,048	21,907
COSTS $		—	33,819,490	45,640,002	79,459,492	—	16,909,747	9,128,000	11,351,356
TOTAL WELLS		316	358	1,561	2,235				
TOTAL FOOTAGE		2,482,515	2,828,661	10,641,178	15,952,354	7,856	7,901	6,817	7,138
TOTAL COSTS $		234,194,310	493,025,348	903,750,159	1,630,969,817	741,121	1,377,166	578,956	729,740

SUMMARY OF SAMPLE DATA - 1990

DEVELOPMENT WELLS

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS				AVERAGE DEPTH AND COST PER WELL			
		OIL WELLS	GAS WELLS	DRY HOLES	TOTAL	OIL	GAS	DRY	TOTAL
WELLS		695	135	94	924				
FOOTAGE	0 - 1,249	642,200	136,176	69,368	847,744	924	1,009	738	917
COSTS $		49,964,198	7,932,679	3,870,229	61,767,106	71,891	58,761	41,173	66,848
WELLS		1,247	1,017	139	2,403				
FOOTAGE	1,250 - 2,499	2,180,505	1,952,265	268,082	4,400,852	1,749	1,920	1,929	1,831
COSTS $		120,579,487	118,366,264	11,591,842	250,537,593	96,696	116,388	83,395	104,260
WELLS		832	1,268	188	2,288				
FOOTAGE	2,500 - 3,749	2,604,638	3,964,305	596,780	7,165,723	3,131	3,126	3,174	3,132
COSTS $		132,582,037	290,214,737	16,906,004	439,702,778	159,353	228,876	89,926	192,178
WELLS		871	431	240	1,542				
FOOTAGE	3,750 - 4,999	3,914,876	1,870,802	1,035,908	6,821,586	4,495	4,341	4,316	4,424
COSTS $		188,032,886	103,042,554	33,586,703	324,662,143	215,882	239,078	139,945	210,546
WELLS		940	1,042	344	2,326				
FOOTAGE	5,000 - 7,499	5,638,605	6,382,891	2,121,069	14,142,565	5,999	6,126	6,166	6,080
COSTS $		332,658,906	351,641,995	82,301,727	766,602,628	353,892	337,468	239,249	329,580
WELLS		895	642	219	1,756				
FOOTAGE	7,500 - 9,999	7,829,516	5,566,996	1,893,251	15,289,763	8,748	8,671	8,645	8,707
COSTS $		579,156,955	534,849,257	142,717,857	1,256,724,069	647,103	833,099	651,680	715,674
WELLS		314	328	138	780				
FOOTAGE	10,000 - 12,499	3,452,740	3,642,681	1,533,528	8,628,949	10,996	11,106	11,113	11,063
COSTS $		404,762,713	426,015,487	134,967,115	965,745,315	1,289,053	1,298,828	978,023	1,238,135
WELLS		132	159	69	360				
FOOTAGE	12,500 - 14,999	1,761,899	2,157,888	940,900	4,860,687	13,348	13,572	13,636	13,502
COSTS $		267,179,424	325,729,347	139,668,469	732,577,240	2,024,087	2,048,612	2,024,181	2,034,937
WELLS		16	51	29	96				
FOOTAGE	15,000 - 17,499	250,953	815,084	460,812	1,526,849	15,685	15,982	15,890	15,905
COSTS $		73,741,795	219,568,266	106,829,280	400,139,341	4,608,862	4,305,260	3,683,768	4,168,118
WELLS		2	11	14	27				
FOOTAGE	17,500 - 19,999	35,517	199,855	262,249	497,621	17,759	18,169	18,732	18,430
COSTS $		17,169,164	43,884,303	78,816,852	139,870,319	8,584,582	3,989,482	5,629,775	5,180,382
WELLS		—	3	1	4				
FOOTAGE	20,000 & OVER	—	62,715	21,241	83,956	—	20,905	21,241	20,989
COSTS $		—	48,160,343	9,350,785	57,511,128	—	16,053,448	9,350,785	14,377,782
TOTAL WELLS		5,944	5,087	1,475	12,506				
TOTAL FOOTAGE		28,311,449	26,751,658	9,203,188	64,266,295	4,763	5,259	6,239	5,139
TOTAL COSTS $		2,165,827,565	2,469,405,232	760,606,863	5,395,839,660	364,372	485,435	515,666	431,460

SUMMARY OF SAMPLE DATA - 1990

SINGLE-COMPLETION WELLS

	DEPTH INTERVAL (FEET)	TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS		AVERAGE DEPTH AND COST PER WELL	
		OIL WELLS	GAS WELLS	OIL	GAS
WELLS		698	145		
FOOTAGE	0 - 1,249	645,184	142,264	924	981
COSTS $		50,018,743	8,351,235	71,660	57,595
WELLS		1,249	1,043		
FOOTAGE	1,250 - 2,499	2,182,440	2,003,318	1,747	1,921
COSTS $		120,590,105	121,982,732	96,549	116,954
WELLS		847	1,272		
FOOTAGE	2,500 - 3,749	2,654,501	3,977,963	3,134	3,127
COSTS $		134,001,926	295,599,317	158,208	232,389
WELLS		929	410		
FOOTAGE	3,750 - 4,999	4,169,645	1,780,064	4,488	4,342
COSTS $		194,344,341	99,559,865	209,197	242,829
WELLS		1,004	1,044		
FOOTAGE	5,000 - 7,499	6,019,160	6,374,321	5,995	6,106
COSTS $		347,286,268	331,944,843	345,903	317,955
WELLS		924	657		
FOOTAGE	7,500 - 9,999	8,088,790	5,689,355	8,754	8,660
COSTS $		579,656,325	544,377,744	627,334	828,581
WELLS		339	352		
FOOTAGE	10,000 - 12,499	3,744,982	3,909,678	11,047	11,107
COSTS $		437,050,532	484,708,056	1,289,235	1,377,012
WELLS		174	196		
FOOTAGE	12,500 - 14,999	2,320,538	2,665,454	13,336	13,599
COSTS $		334,623,834	442,955,653	1,923,126	2,259,978
WELLS		20	65		
FOOTAGE	15,000 - 17,499	312,353	1,037,752	15,618	15,965
COSTS $		80,221,622	282,628,535	4,011,081	4,348,132
WELLS		4	14		
FOOTAGE	17,500 - 19,999	70,890	255,455	17,723	18,247
COSTS $		24,684,489	63,479,027	6,171,123	4,534,216
WELLS		—	5		
FOOTAGE	20,000 & OVER	—	105,823	--	21,165
COSTS $		—	81,979,833	--	16,395,967

SUMMARY OF SAMPLE DATA - 1990

MULTIPLE-COMPLETION WELLS

DEPTH INTERVAL (FEET)		TOTAL NUMBER OF WELLS, FOOTAGE DRILLED, AND COSTS		AVERAGE DEPTH AND COST PER WELL	
		OIL WELLS	GAS WELLS	OIL	GAS
WELLS		--	2		
FOOTAGE	0 - 1,249	--	2,206	--	1,103
COSTS $		--	47,500	--	23,750
WELLS		3	--		
FOOTAGE	1,250 - 2,499	6,835	--	2,278	--
COSTS $		213,252	--	71,084	--
WELLS		7	22		
FOOTAGE	2,500 - 3,749	24,246	67,943	3,464	3,088
COSTS $		1,086,471	3,445,503	155,210	156,614
WELLS		3	53		
FOOTAGE	3,750 - 4,999	13,691	232,771	4,564	4,392
COSTS $		1,302,683	12,779,222	434,228	241,117
WELLS		13	81		
FOOTAGE	5,000 - 7,499	82,369	523,325	6,336	6,461
COSTS $		7,339,676	58,144,508	564,590	717,833
WELLS		26	54		
FOOTAGE	7,500 - 9,999	220,136	458,373	8,467	8,488
COSTS $		49,566,665	61,012,526	1,906,487	1,129,862
WELLS		16	22		
FOOTAGE	10,000 - 12,499	179,215	249,582	11,201	11,345
COSTS $		27,562,877	48,274,767	1,722,680	2,194,308
WELLS		2	8		
FOOTAGE	12,500 - 14,999	25,642	104,672	12,821	13,084
COSTS $		3,895,119	21,159,714	1,947,560	2,644,964
WELLS		2	--		
FOOTAGE	15,000 - 17,499	33,347	--	16,674	--
COSTS $		6,574,947	--	3,287,474	--
WELLS		--	--		
FOOTAGE	17,500 - 19,999	--	--	--	--
COSTS $		--	--	--	--
WELLS		--	--		
FOOTAGE	20,000 & OVER	--	--	--	--
COSTS $		--	--	--	--

JAS SAMPLE DISTRIBUTION 1986 - 1990

Wells Drilled	1986 Total Companies	1986 Total Wells	1987 Total Companies	1987 Total Wells	1988 Total Companies	1988 Total Wells	1989 Total Companies	1989 Total Wells	1990 Total Companies	1990 Total Wells
1-4	775	1,501	958	1,841	955	1,819	910	1,696	774	1,505
5-9	214	1,382	250	1,601	223	1,434	203	1,301	211	1,356
10-24	164	2,460	175	2,617	140	2,101	92	1,365	115	1,621
25-49	41	1,356	40	1,296	36	1,200	28	988	46	1,675
50-99	19	1,373	17	1,201	21	1,362	20	1,419	24	1,614
100 & over	23	7,221	18	6,473	21	6,078	18	4,589	25	6,970
Total	1,236	15,293	1,458	15,029	1,396	13,994	1,271	11,358	1,195	14,741

APPENDIX C: Statistical Methodology

Joint Association Survey on Drilling Costs

ESTIMATION METHODOLOGY

Regression Analysis Procedures

The current JAS methodology is a modified version of a technique practiced since 1978 -- regression analysis. This method was used to model costs for non-reported wells as a function of the depth, type and general location of those wells.

Once the JAS sample data were collected and verified, a separate regression model for each geographic area and well type was developed using equation I. Two independent variables were used -- depth and depth squared. The general regression model was:

$$\text{I.} \quad (\text{cost})^{\alpha} = \beta_0 + \beta_1 (\text{depth}) + \beta_2 (\text{depth})^2$$

Since the relationship between cost and depth is generally non-linear, a stabilizing transformation was performed on the dependent variable (cost). This is reflected in the regression models by α, which was the power used to convert the dependent variable to a form that was linearly correlated with the independent variables. Three forms of transformation were found to be significant: the natural log, the fourth root and the square root.

Because the dependent variable was transformed, a bias was introduced into the estimates (the prevailing transformation generally induced a downward bias). Therefore, the estimates had to be adjusted using equation II. Multiplying them by the correction factor (F) yielded unbiased estimates.

$$\text{II.} \quad F = \text{Sum of actual costs for sample} \div \text{Sum of estimated costs for sample}$$

Inevitably, some non-sample wells fall outside the depth range of the sample. Statistically, there is no reason to expect the regression estimates to be "reasonable" for depths where there is no sample. Instead, these costs must be estimated independently based on costs in similar areas or on previous years' data. This was necessary for approximately 5 percent of all unreported wells in 1990.

Estimated Standard Errors

Transforming the dependent variable caused the estimates and the standard errors to be in units other than dollars. The process for converting the estimates back into dollars was relatively straightforward. However, the process for re-converting the standard errors yields measures that are not as accurate. Therefore, the actual and estiamted sample well costs were used to approximate the standard errors.

This was done by subtracting the actual cost from the estimated cost for each well and squaring that value (called the error, or residual) in order to eliminate the negative sign. The squared error is called the variance; taking the square root of the variance provides the estimated standard error.

Using this approach, it was not possible to calculate the standard error for each well. Table C1 contains the estimated standard error for each area and type of well. A confidence interval can be constructed using these standard errors for the **average** depth well.

Example 1 shows how to use the estimated standard error to calculate a 95 percent confidence interval for an average well in the United States regardless of the type of well.

Table C1: Estimated Standard Errors

State	Type			
	Oil	Gas	Dry	Total[1]
Alabama	57,917	22,749	25,758	24,540
Alaska - Onshore	85,595	0	496,938	144,738
Arkansas	74,619	32,049	17,244	37,426
California - North	62,087	32,534	44,891	41,008
California - Central Coastal	28,719	--	297,119	95,264
California - East Coastal	2,952	26,231	48,752	7,443
California - South	6,540	--	55,669	29,602
California - Offshore	382,798	348,394	--	374,494
Colorado	20,648	9,409	14,715	12,586
Florida	--	--	50,422	50,422
Illinois	6,553	17	2,153	5,426
Indiana	2,037	1,261	2,224	2,086
Kansas	2,262	2,855	1,645	2,310
Kentucky	9,880	2,866	5,508	4,673
Louisiana - North	24,161	35,544	14,195	26,415
Louisiana - South	45,097	131,469	89,422	92,339
Louisiana - Offshore	337,084	181,125	117,528	186,110
Michigan	32,701	3,161	55,989	23,966
Mississippi	67,382	70,102	51,285	60,800
Montana	53,459	2,268	6,200	19,920
Nebraska	8,855	--	6,490	7,285
New Mexico - East	8,605	27,104	21,923	17,148
New Mexico - West	7,679	3,443	0	3,818
North Dakota	65,255	90,498	50,129	61,503
Oklahoma	10,538	23,177	23,229	20,267
Texas RRC Dist. 1	21,953	48,447	28,271	28,267
Texas RRC Dist. 2	18,848	55,269	35,470	44,846
Texas RRC Dist. 3	37,598	67,299	70,056	59,006
Texas RRC Dist. 4	12,049	33,067	44,545	34,355
Texas RRC Dist. 5	14,685	41,760	85,269	44,477
Texas RRC Dist. 6	16,548	15,758	15,466	15,837
Texas RRC Dist. 7B	4,383	13,812	3,067	6,077
Texas RRC Dist. 7C	6,275	8,407	8,387	7,465
Texas RRC Dist. 8	4,634	37,708	34,896	12,622
Texas RRC Dist. 8A	4,438	0	12,987	6,090
Texas RRC Dist. 9	4,165	13,851	4,612	8,212
Texas RRC Dist. 10	10,513	11,246	20,302	13,036
Texas - Offshore	429,204	327,715	149,382	265,908
Utah	120,287	34,655	58,480	82,415
Wyoming	22,656	28,788	16,492	22,955
Appalachian	1,372	2,203	7,949	2,541
Offshore Fed. - Gulf North	262,098	655,791	419,537	373,889
Offshore	322,553	307,339	166,488	256,877
Onshore	26,632	17,027	25,342	23,249
Total U.S.	30,960	23,787	37,265	30,046

[1] *This column depicts the pooled (weighted mean) standard error for any type of well.*

Standard Errors (Cont.)

EXAMPLE 1

The average well cost in the U.S. equals:

$$\$10,937,473,918 \div 28,513 = \$383,596$$

The 95 percent confidence interval would be: 383,596 ± 2 (30,046).

Estimated Median Drilling Costs

Since the mean is a "robust" summary measure, it is sometimes not a good representation of the central tendency of the population. For example, in the JAS, a few expensive wells can "pull" the mean up toward those wells' costs and away from the "middle" of the data. The result is an average that is higher than the average for typical wells.

The median, however, is a static summary measure and is unaffected by very high or very low values. For a population such as drilling costs, most of the data are densely scattered in one small area with few points on the extremes. In this situation, the median is usually a better measure of central tendency than the mean.

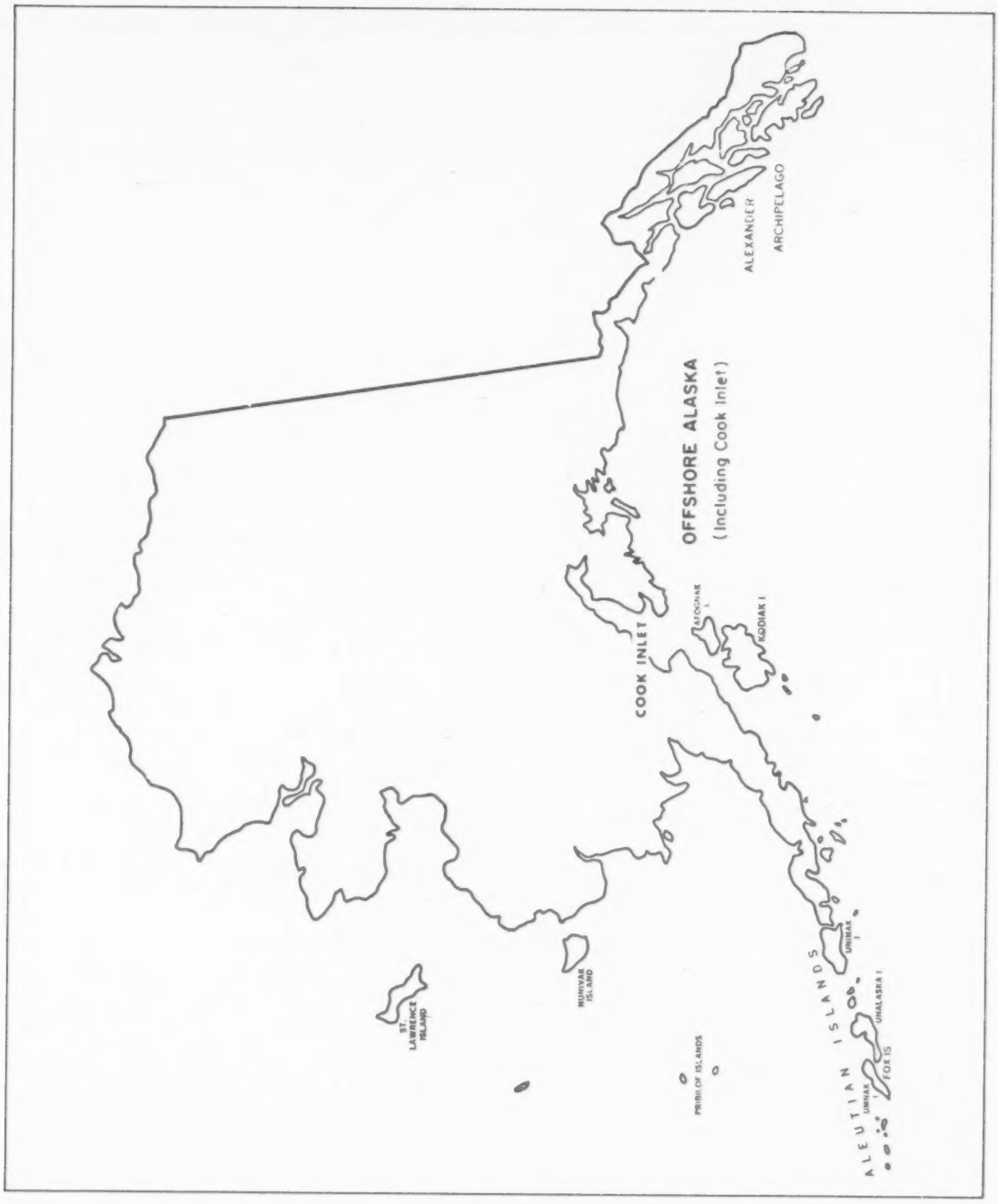
The estimated median drilling cost for each state and well type is listed in Table C2.

Table C2: Estimated Median Costs

State	Type			
	Oil	Gas	Dry	Total
Alabama	488,700	153,714	185,099	167,569
Alaska - Onshore	2,541,000	5,280,459	2,749,065	2,549,000
Alaska - Offshore	6,712,830	3,150,000	--	4,143,147
Arkansas	168,078	320,487	114,084	179,336
California - North	583,902	389,856	245,903	313,129
California - Cent. Coastal	294,575	--	1,016,789	365,751
California - East Coastal	98,166	403,200	153,779	99,041
California - South	172,497	--	233,477	174,864
California - Offshore	2,485,630	2,182,620	--	2,485,630
Colorado	230,004	323,599	120,758	238,124
Florida	--	--	721,726	721,726
Illinois	97,740	17,824	42,052	59,834
Indiana	29,769	17,223	15,902	22,372
Kansas	73,046	146,000	50,886	64,797
Kentucky	52,465	131,279	30,506	68,730
Louisiana - North	93,560	236,644	59,292	73,533
Louisiana - South	671,902	1,536,278	777,261	871,731
Louisiana - Offshore	2,118,378	3,028,679	1,517,000	2,063,913
Michigan	297,200	85,230	259,288	87,422
Mississippi	1,032,997	305,497	160,206	305,497
Montana	564,673	72,494	61,236	74,036
Nebraska	128,773	--	55,376	71,302
New Mexico - East	387,974	528,303	263,721	385,683
New Mexico - West	288,073	265,300	153,833	267,300
North Dakota	760,758	1,479,783	155,902	401,847
Oklahoma	134,630	366,964	122,898	178,181
Texas RRC Dist. 1	674,902	368,003	88,441	581,737
Texas RRC Dist. 2	129,820	179,585	117,793	141,700
Texas RRC Dist. 3	619,565	463,152	321,367	453,049
Texas RRC Dist. 4	148,034	795,105	311,690	496,539
Texas RRC Dist. 5	171,800	978,129	165,733	332,256
Texas RRC Dist. 6	309,618	1,073,299	205,273	541,262
Texas RRC Dist. 7B	82,647	111,764	49,391	64,780
Texas RRC Dist. 7C	235,617	315,615	81,908	235,092
Texas RRC Dist. 8	296,000	435,250	252,487	301,019
Texas RRC Dist. 8A	225,677	186,495	156,955	222,719
Texas RRC Dist. 9	39,678	334,502	25,635	51,398
Texas RRC Dist. 10	158,480	300,989	192,304	208,628
Texas - Offshore	2,594,719	3,138,224	1,667,994	2,177,835
Utah	590,114	458,573	288,943	572,384
Wyoming	364,129	780,773	178,985	304,991
Appalachian	115,626	153,000	98,533	136,601
Offshore Fed. - Gulf North	2,055,314	2,808,536	5,060,957	2,887,694
Offshore	2,143,332	3,030,687	1,783,000	2,193,423
Onshore	148,326	199,524	91,856	150,154
Development Wells	147,142	198,393	87,250	155,673
Exploratory Wells	241,259	356,272	114,080	148,452
Total U.S.	149,770	205,672	98,923	154,854

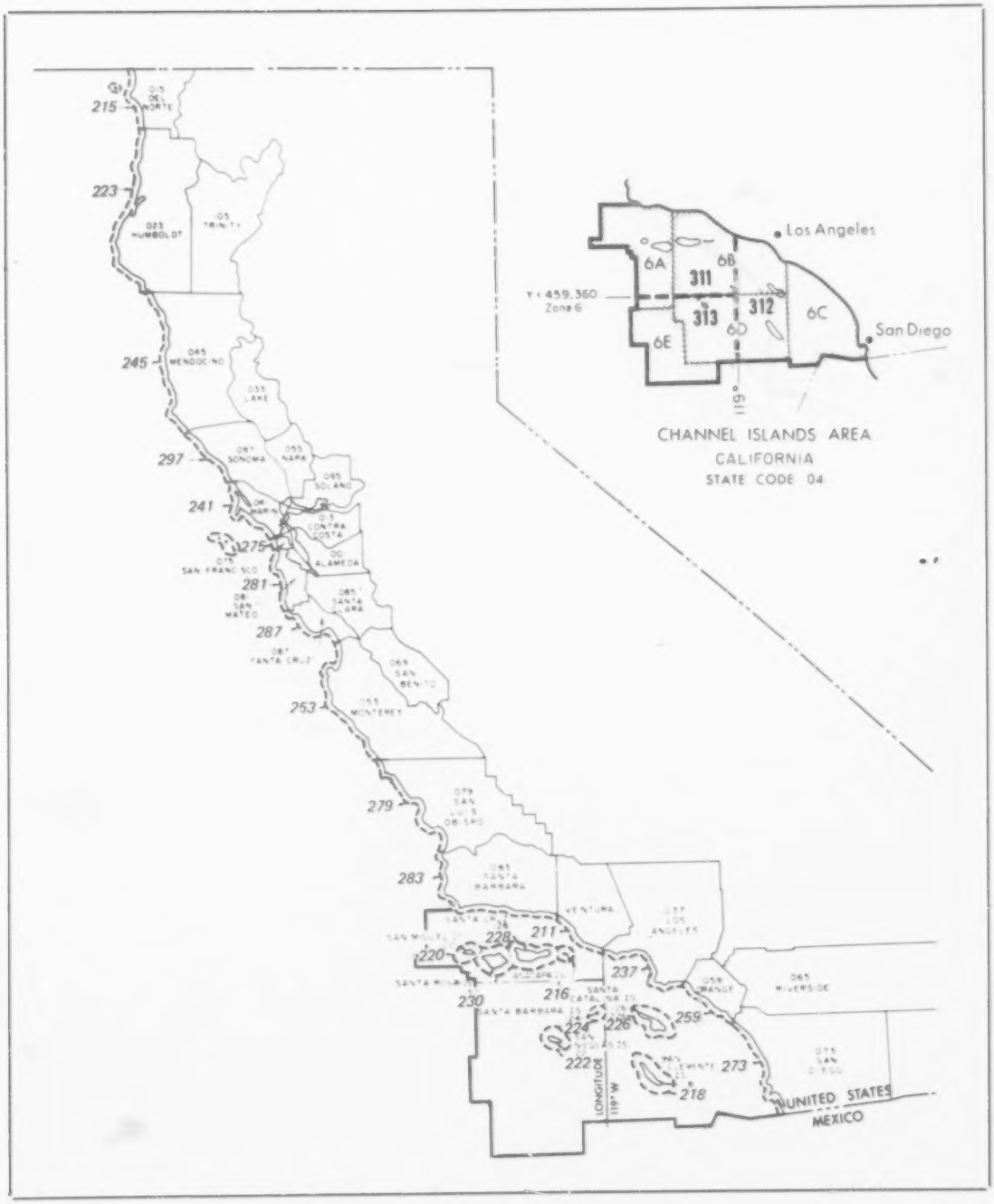
APPENDIX D: Area Maps

MAP I
SUBDIVISIONS OF ALASKA

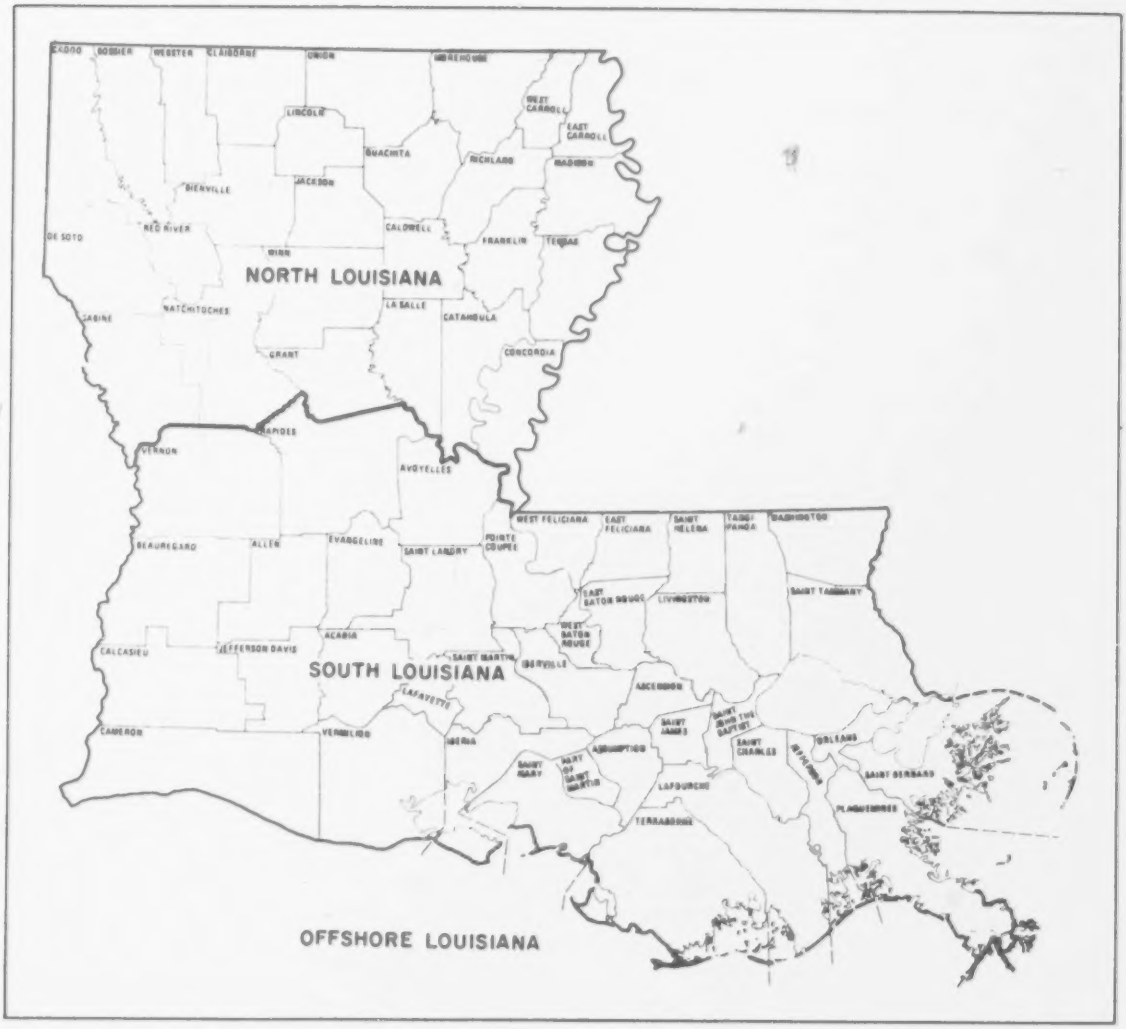


MAP II
SUBDIVISIONS OF CALIFORNIA

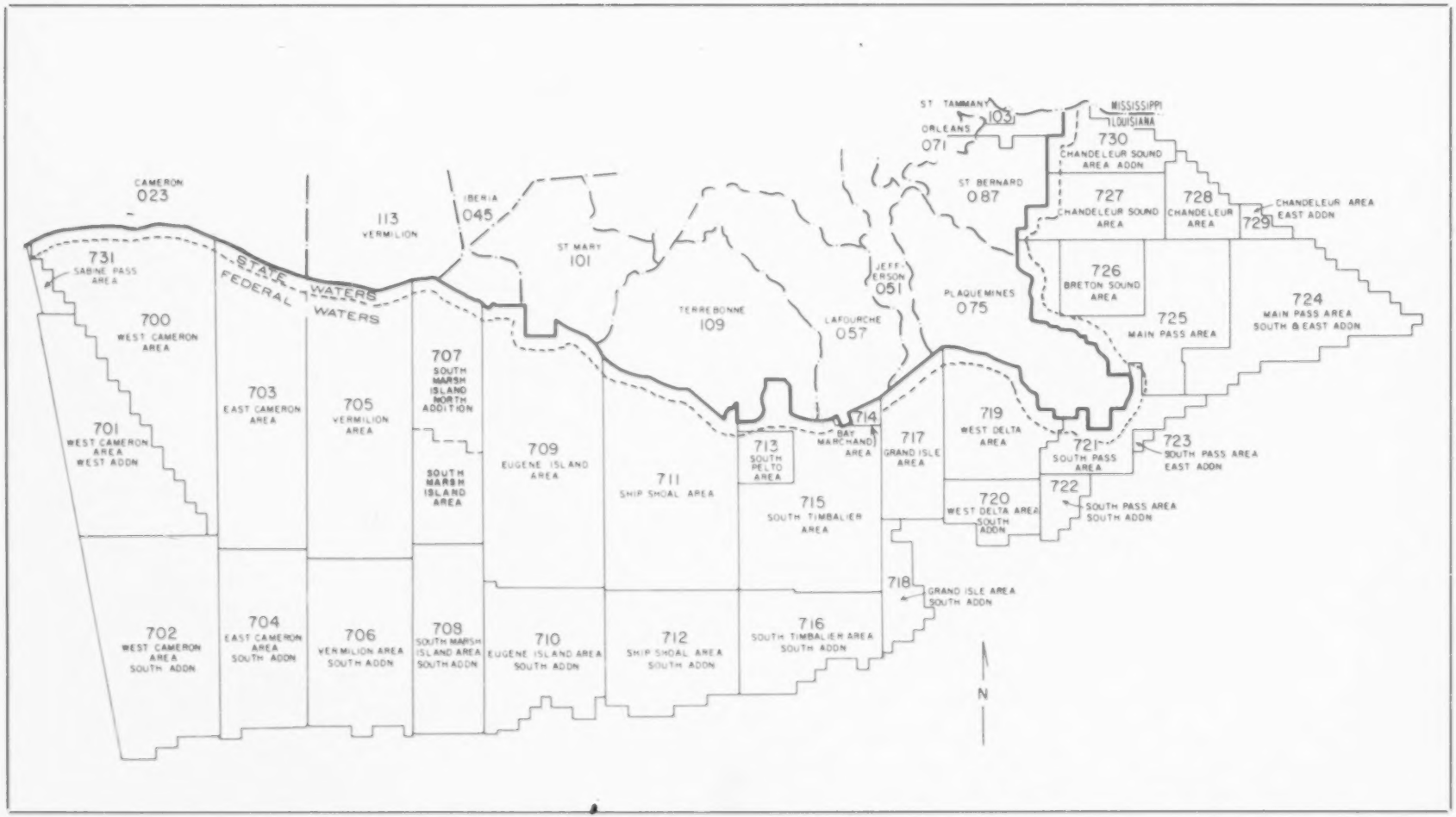
MAP III
CALIFORNIA OFFSHORE



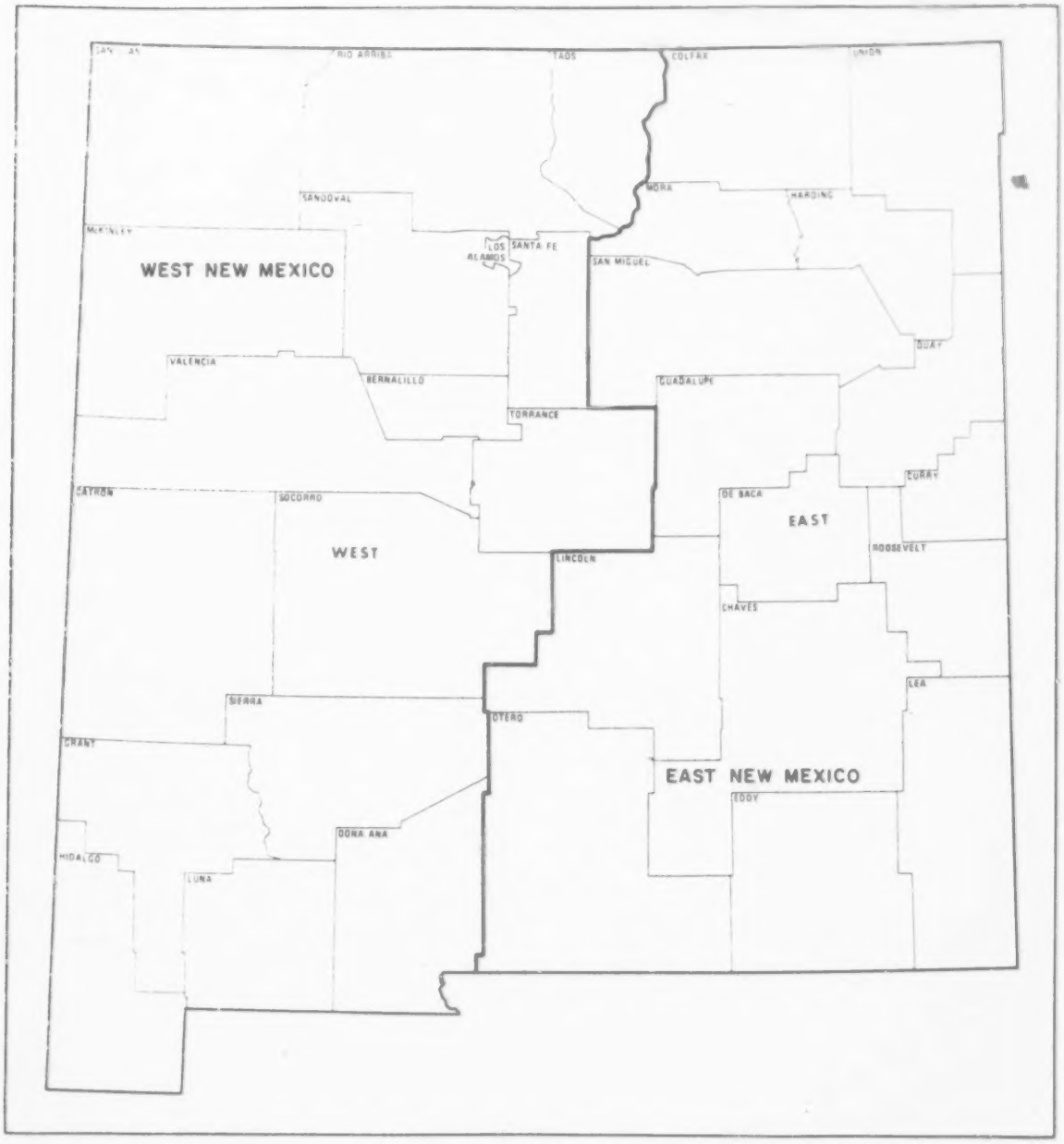
MAP IV
SUBDIVISIONS OF LOUISIANA



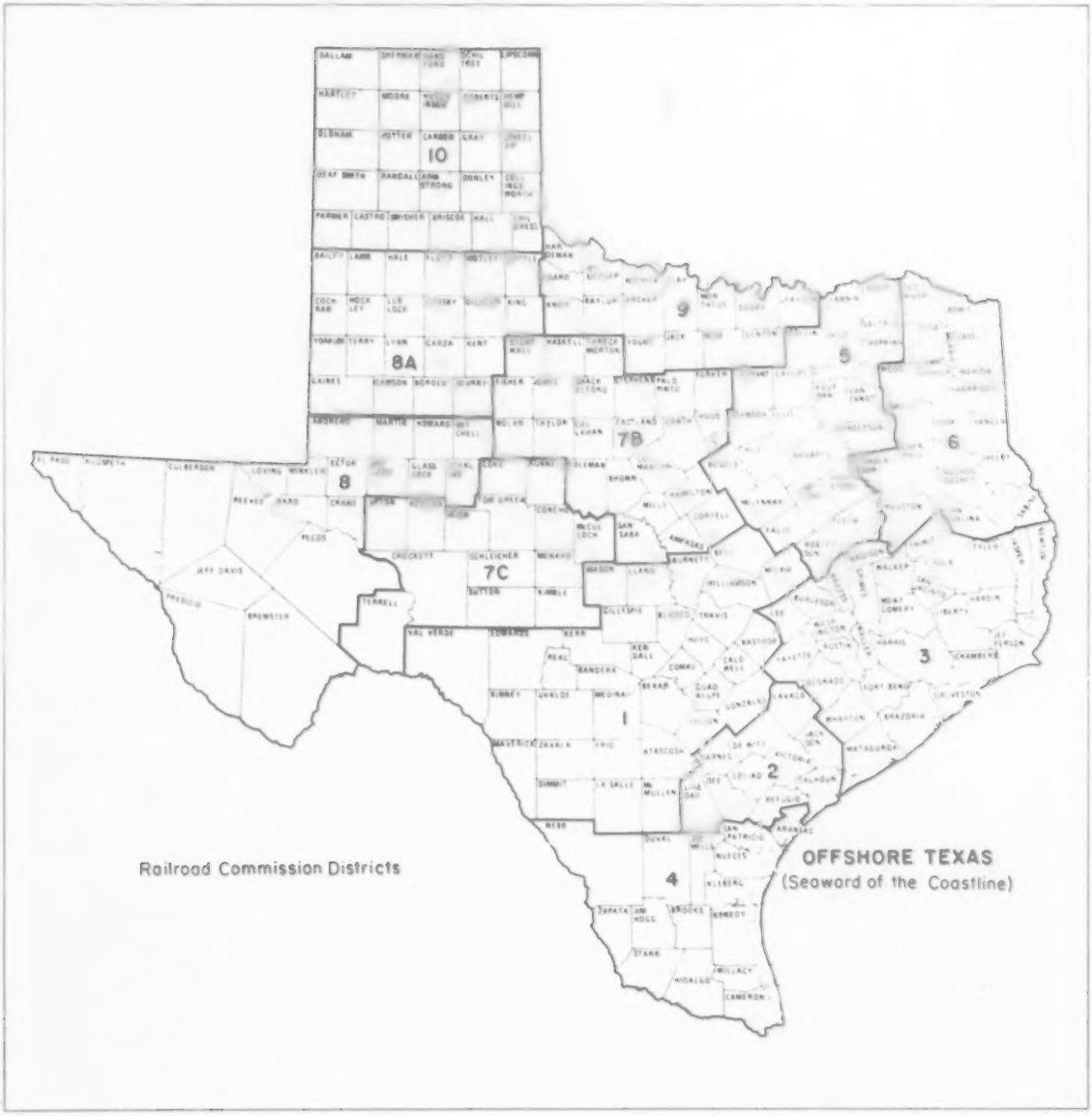
MAP V
LOUISIANA OFFSHORE



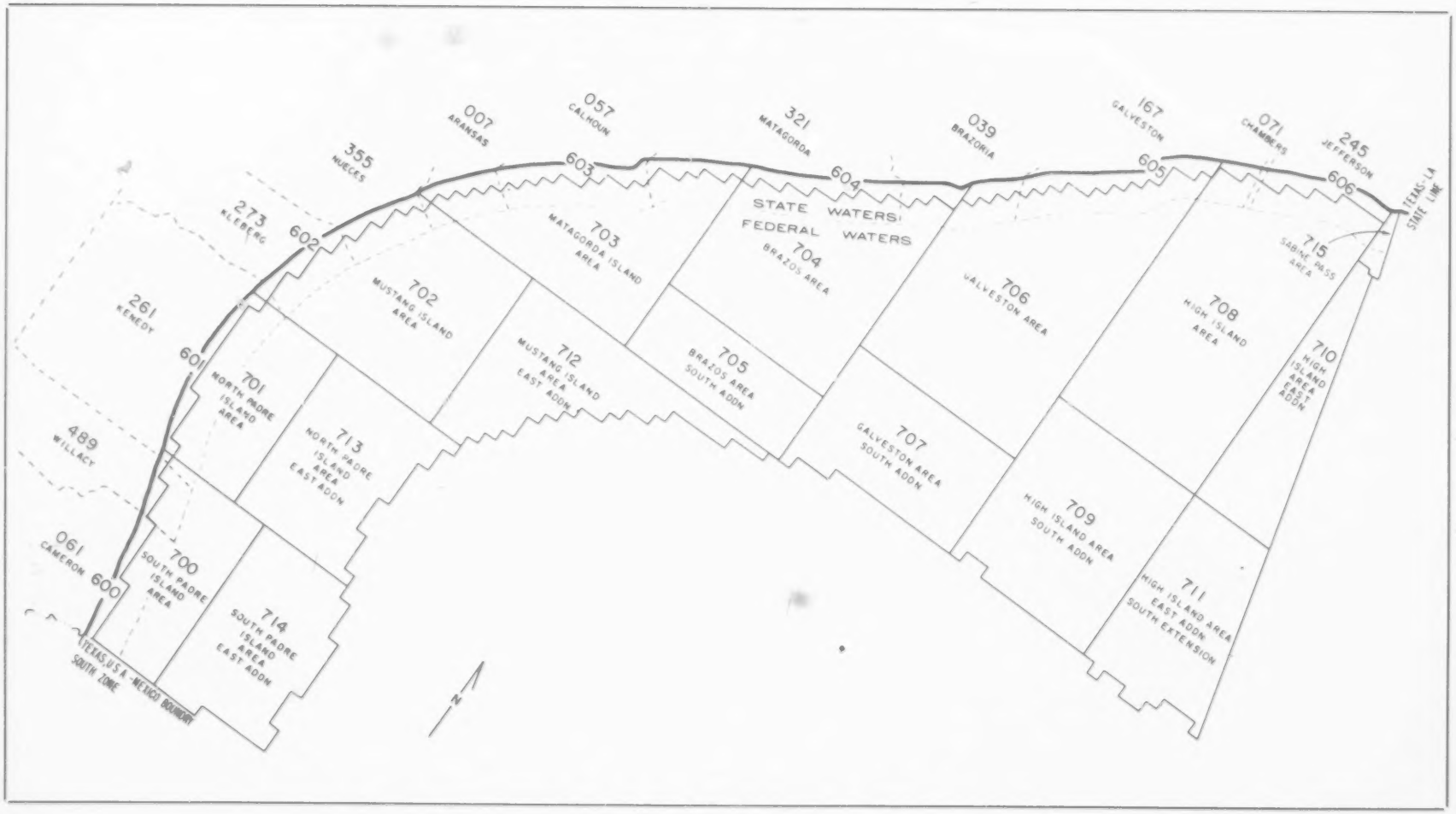
MAP VI
SUBDIVISIONS OF NEW MEXICO



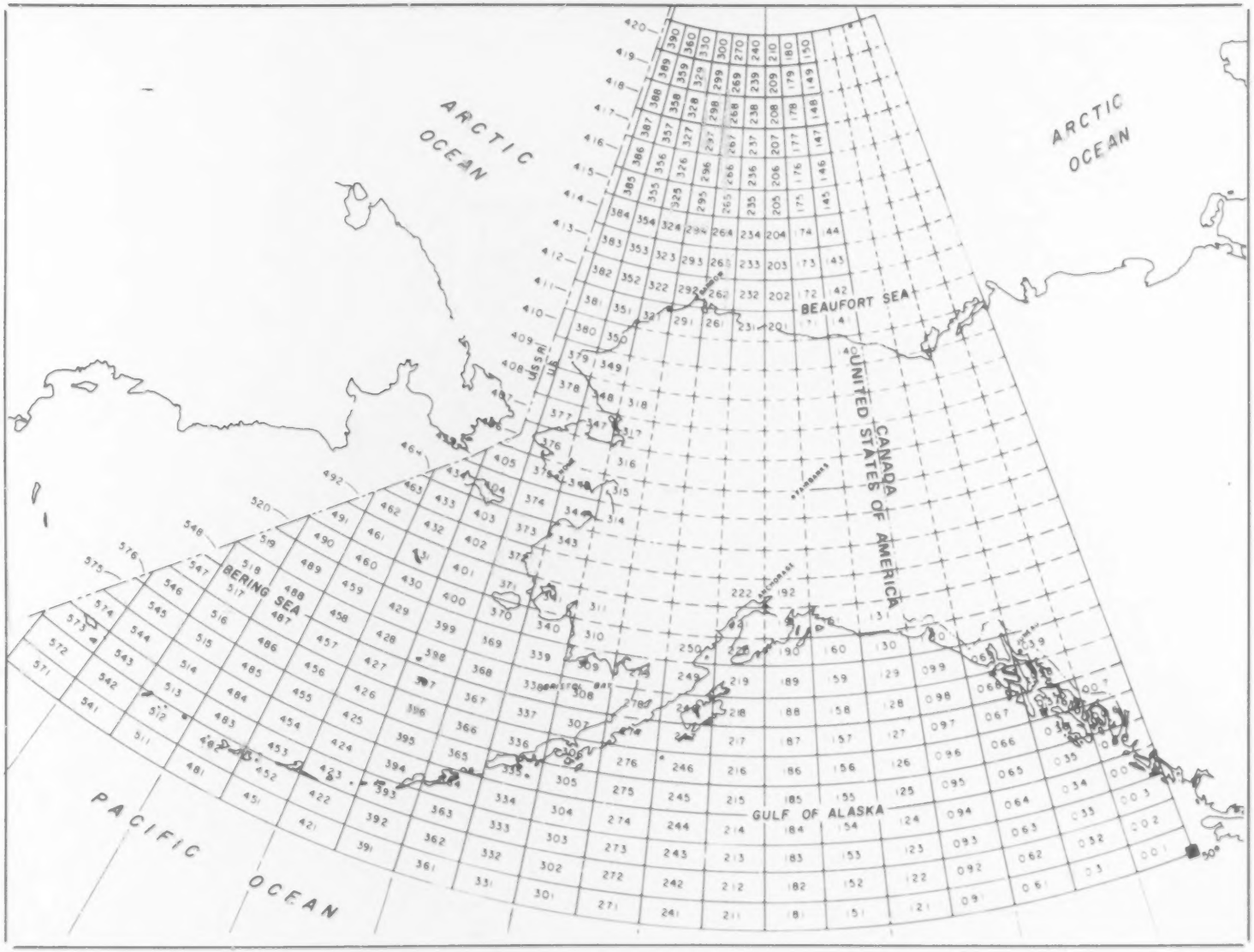
MAP VII
SUBDIVISIONS OF TEXAS



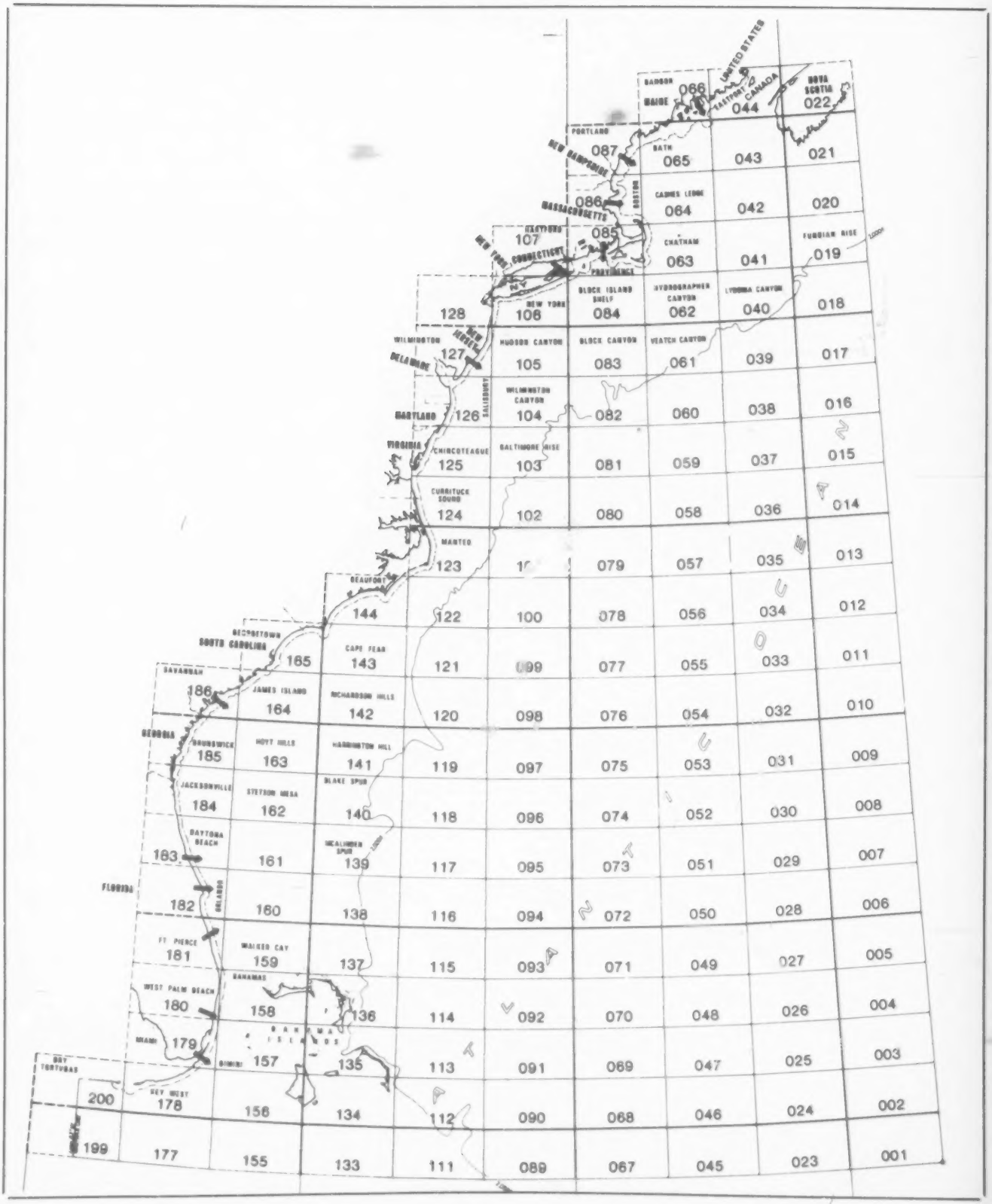
MAP VIII
TEXAS OFFSHORE



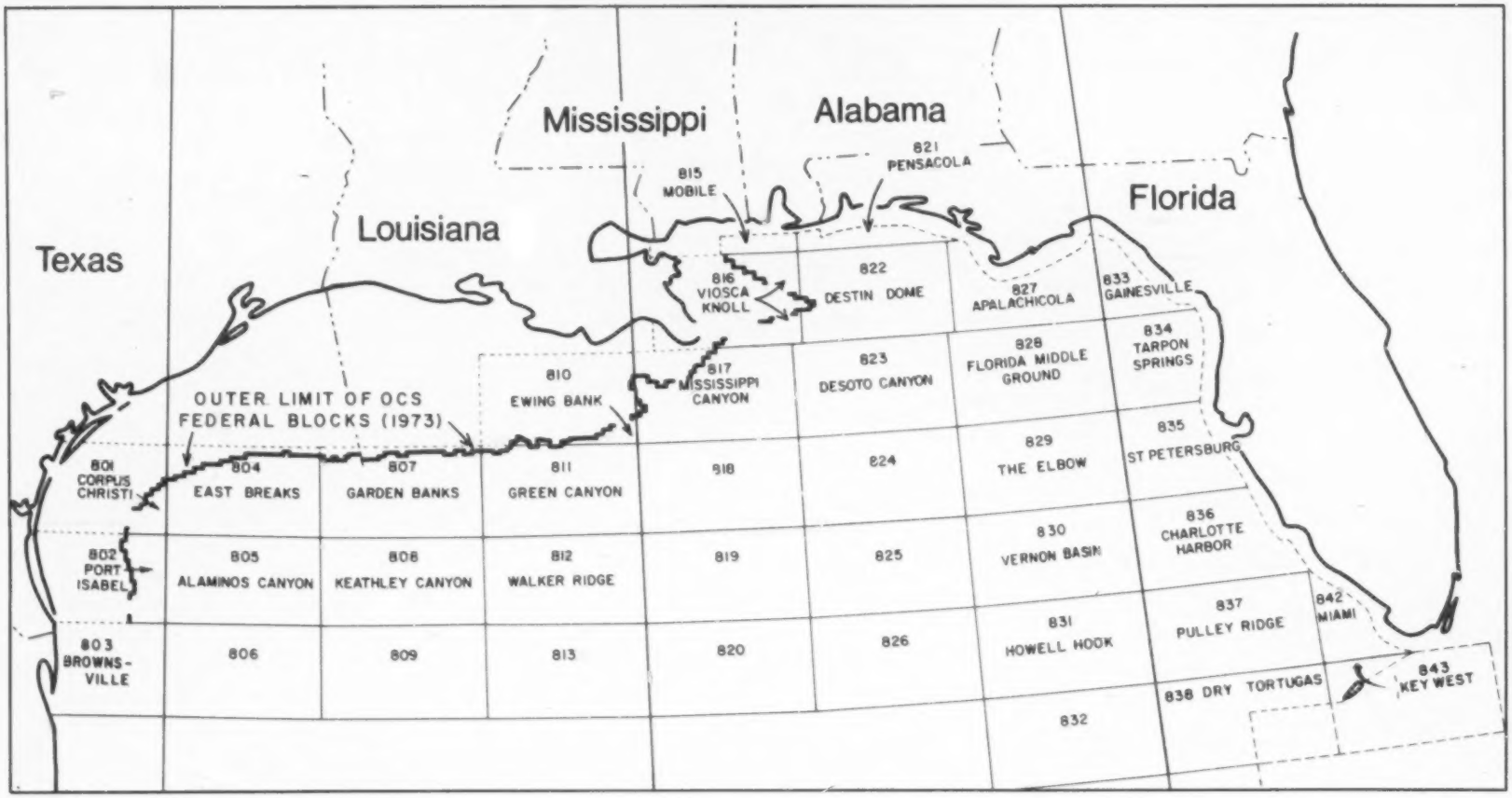
MAP IX
SUBDIVISIONS OF
OFFSHORE FEDERAL WATERS
ALASKA



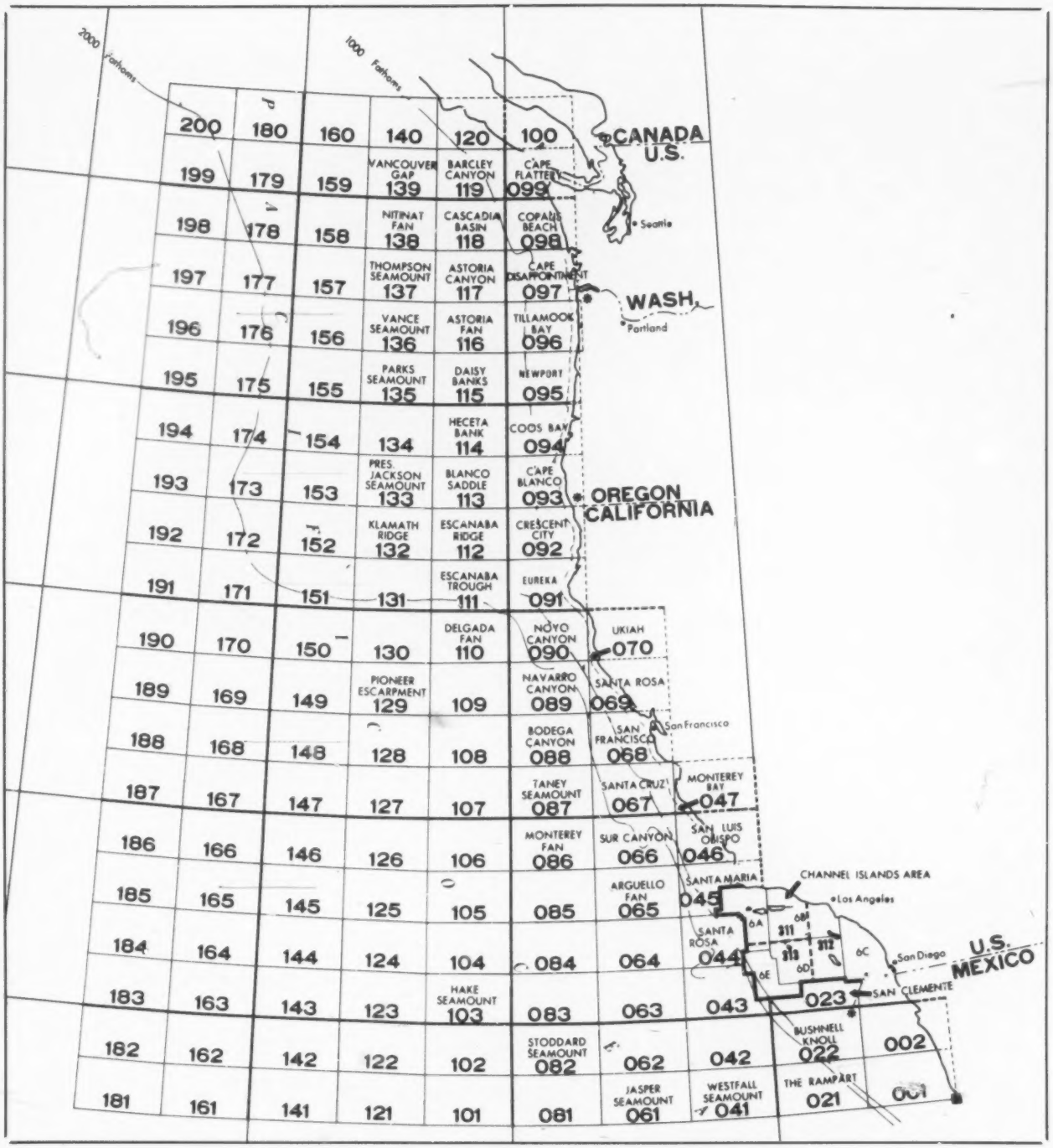
MAP X
SUBDIVISIONS OF OFFSHORE FEDERAL WATERS
ATLANTIC COAST



MAP XI
SUBDIVISIONS OF
OFFSHORE FEDERAL WATERS
GULF OF MEXICO—Northern



MAP XII
SUBDIVISIONS OF
OFFSHORE FEDERAL WATERS
PACIFIC COAST



American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005